Virginia Wildlife

AUGUST 1969

VOLUME XXX / NUMBER 8

20 CENTS

Virginia Wildlife

Dedicated to the Conservation of Virginia's Wildlife and Related Natural Resources and to the Betterment of Outdoor Recreation in Virginia

Published by VIRGINIA COMMISSION OF GAME AND INLAND FISHERIES, *Richmond, Virginia 23230*

COMMONWEALTH OF VIRGINIA

MILLS E. GODWIN, JR., Governor

Commission of Game and Inland Fisheries

COMMISSIONERS

R. G. GUNTER, *Chairman* . . . . . Abingdon
CUSTIS L. COLEMAN, M.D., *Vice Chairman* . Richmond
J. C. AARON . . . . . Martinsville
H. G. BAUSERMAN, JR. . . . . Arlington
RICHARD F. BEIRNE, III . . . . . Covington
EDWARD E. EDGAR . . . . . Norfolk
A. REE ELLIS . . . . . Waynesboro
M. GARDNER SMITH . . . . . Newport News
G. RICHARD THOMPSON . . . . . Marshall
E. FLOYD YATES . . . . . Powhatan

ADMINISTRATIVE OFFICERS

CHESTER F. PHELPS, *Executive Director*
RICHARD H. CROSS, JR. . . *Chief, Game Division*
JACK M. HOFFMAN . . . . . *Chief, Fish Division*
SAM J. PUTT . . . . . *Chief, Fiscal Division*
JAMES F. MCINTEER, JR. . *Chief, Education Division*
JOHN H. MCLAUGHLIN . *Chief, Law Enforcement Div.*

PUBLICATION OFFICE: Commission of Game and Inland Fisheries, 4010 W. Broad St., Richmond, Virginia

JAMES F. MCINTEER, JR. . . . . *Editor*
ANN E. PILCHER . . . . . *Editorial Assistant*
LEON G. KESTELOO . . . . . *Photographer*
HARRY L. GILLAM . . . . . *Circulation*

AUGUST

Volume XXX/No. 8

IN THIS ISSUE **PAGE**

Guest Editorial: Something About a Marsh 3
Letters 3
If Turkeys Could Talk 4
Catering to Quail 7
Crossing the Slab 8
Happenings 9
Shadow-witch 11
In the News 12
Conservationgram 13
Assateague 14
Let's Have a Clambake 16
As It Was, Is Now, and . . . ? 18
Who Needs Money, Anyway? 22
The Pleasures of Trout Fishing 23
The Drumming Log 24
Youth Afield 25
On the Waterfront 26
Bird of the Month: American Oystercatcher 27
Pictorial: An Assortment of Herons 28

COVER: *Urocyon cinereoargenteus*, the gray fox, said to be less shy and cunning than his red cousin, is a true native of Virginia forests, unlike the red fox about whose ancestry and pre-colonial distribution in eastern North America there remains some doubt. Our artist: Kent Pendleton, Bellevue, Washington.

SUBSCRIPTIONS: One year, $1.50; three years, $3.50. Give check or money order, made payable to the Treasurer of Virginia, to local game commission employee or send to Commission of Game and Inland Fisheries, P. O. Box 11104, Richmond, Virginia 23230.

VIRGINIA WILDLIFE is published monthly at Richmond, Virginia, by the Commission of Game and Inland Fisheries, 4010 W. Broad Street. All magazine subscriptions, change of address notices, and inquiries should be sent to Box 11104, Richmond, Va. 23230. The editorial office gratefully receives for publication news items, articles, photographs, and sketches of good quality which deal with Virginia's soils, water, forests, and wildlife. The Commission assumes no responsibility for unsolicited manuscripts and illustrative material. Credit is given on material published. Permission to reprint text material is granted provided credit is given the Virginia Commission of Game and Inland Fisheries and VIRGINIA WILDLIFE. Clearances must be made with photographers or artists to reproduce illustrations.

Second-class postage paid at Richmond, Va.

GUEST EDITORIAL

Something About a Marsh

By ROBERT H. GILES, JR., Ph.D., *Associate Professor*
Department of Forestry and Wildlife, V.P.I.

THERE'S something about a marsh that is mystical. You can see it in a little girl's eyes. A marsh is joyous wet feet but frightening deep holes; a marsh is fluffy cattails but grass as rough as a cat's tongue. Marshes are best described in short words like *hues, rust, thin, short, far, damp, beige, wet,* and *hard.*

Marshes are primitive. In them the exciting creation took place. Returning, sensitive man experiences most magnetic plucks of his genetic helixes. Standing on simple, level ground with no other "noise" from tall trees, mountains, or cities, one can experience the sensation of rooting, of singular with-it-ness that goes all-the-way back.

Marshes invade those who study them. Knee deep in mud with nostrils full of marsh gas, the union is complete. The union is augmented little by the researcher eating ducks, or muskrats or birds; the dynamic of man and marsh is not one of consumptions but of intercourse.

In the coastal marshes of the world is the mystery greatest. These foreboding lands are where land and ocean merge; where fish spawn; where the energy of the sun is lapped up as nowhere else; where red-wings, like Kierkegaard's spot of crimson, the corrective, convert beauty into masterpiece. These ancestral beds are the buffers of our shores. They are biological cauldrons, seething with the dynamics of natality and mortality of thousands of life forms. There are the nesting, resting, and feeding areas of thousands of waterfowl. There the life-game is played among the hyperproductive muskrat, the limited foods, the foraging mink and the migratory behavior of the muskrat that bursts upon it periodically—resulting in settlement in splendid new environs or certain death.

In a little girl's eyes.

The marshes are ponderous—bigger than life—but they are sensitive areas that, like the petals of certain flowers, respond to subtle changes. Drainage, pesticides, land fills— all consume the primitive marsh. Some will stay—soupy and stagnant—non-living like the sterile greasy areas behind service stations. But they are no longer marshes. Others will stay and continue to do those things they now do—generate ducks, regulate the water cycle, influence the water tables, protect the shores, provide the womb for oceanic fish and a myriad of other life forms, and potentially yield undreamed of information about man and his origin—and future. They will surely be the last food frontier for the overpopulated world.

Some cultures have had no word for "God" for by naming, a certain control is gained, certain limits set, certain freedoms restricted. To name is to symbolize and symbols are like idols. There is something irreverent about talking about marshes for there is more to them than words about them can convey. Reading, studying, visiting, walking in—even falling in—a marsh, are ways that can be taken to learn about that special something about a marsh.

LETTERS

Why?

DURING the past year, I have been able to answer most questions "off the cuff"; other times I had to consult a reference, in order to satisfy the inquisitive minds of my students. However, there is one question that I have been unable to answer: "Why doesn't a fish smile?"

Perhaps one of your readers can help me?

Basil F. Giaima
Jersey City, N. J.

Teaching Suburban Youth

THIS letter is in reference to Game Warden Holdaway, Fairfax County, Virginia. We wish to express our appreciation for the services, time and energy that he extended to our 6th grade conservation project.

On May 12, 1969, Officer Holdaway met with our group, in the field. He explained his job and his purpose. He then showed us how to prepare the soil and sow the game bird mixture seed.

Our class planted three plots with this mixture. This was a very educational day for many of the suburban children (11 and 12 years old) who the week before had never heard of a quail nor knew what "carrying capacity" was.

This type of cooperation between schools and your commission representatives should be continued if our youth are to appreciate and protect the wildlife of our state.

P. M. Levine & Mrs. M. J. Hoctor
Brookfield Elem. School, Chantilly

Fascinating Experience

A friend lends me your magazine and I read with interest the articles which Doctor Murray writes about birds.

Last summer I had a fascinating experience with a young eastern chipping sparrow (*Spizella passerina passerina*) which came to our back stoop to feed. For several days I put out crumbs at different times, until when I opened the door I would find the little sparrow sitting outside waiting for his crumbs!

Fastening the screen door back, I put crumbs on the mat outside, then some on the door sill, and more inside on the kitchen floor. Soon the bird appeared, ate the crumbs as he came to them, and was inside the kitchen, appearing very much at home.

For three days I did this a number of times each day. The sparrow hopped over the kitchen floor as well as in the dining area and even in the living room. He did not seem to mind as I took pictures of him, but he would not come closer to me than twelve or fifteen inches.

Whenever the bird was inside the mother sparrow would fly just to the door and on past it, or sit outside twitting and coaxing him to come out. I decided the little bird should re-join his family as I did not want him to become a pet, nor to depend on me for food and protection. It was time for the mother to resume his care and training, so while I found the little chipping sparrow a fascinating visitor, I had to close the door and say goodbye. So many sparrows came to our feeders each day I am sure one of them was this very special little bird.

Elizabeth Woodside
Staunton

IF TURKEYS COULD TALK

By JACK W. RAYBOURNE
District Game Biologist

IF turkeys could talk they might tell us many things we would like to know about their preferences for food, cover and general living conditions. They can't, but modern miracles of electronics may have provided us with a new tool, *bio-telemetry*, with which we can learn much of what we need to know.

Before we can improve living conditions for any species of wildlife we must learn a lot about that species' habitat requirements and how it uses the various components of its range. Anyone who has hunted turkeys can appreciate the fact that the secretive nature of the wild turkey and the complexity of its habitat, especially in the mountains, present difficult problems in obtaining adequate management information on the species.

Several marking techniques have been tried, such as brightly colored wing streamers, toe-clipping and leg banding, in order to follow the movements and observe the habits and routine of individual birds. But each of these methods has severe limitations. Color marked birds must be sighted, toe-clipped individuals must make clear tracks in soft bare earth, and banded birds must be recaptured before any information can be obtained.

Radio telemetry is a promising tracking method developed for wildlife studies within the past decade. By this technique a radio signal is used to transmit information from the animal being monitored to a remote observer. The basic components of the tracking system are a signal-emitting microtransmitter and a direction-finding receiver. The receiver unit, which senses the direction of the signal source remotely, enables the observer to record the signal direction on a map. If this can be accomplished from two or more points, converging lines drawn on a map from the receiving points determine the animal's location at the time the signals were received. Each point then is the animal's location at a point in time. By repeating this process until the transmitter batteries cease to function an observer can record enough location points to enable him to determine movements, roughly the time spent in various types of cover at different times of day and night, and the boundary of the animal's chosen "home range."

Such a study of wild turkeys was undertaken on the Broad Run Management Area in Craig County on the New Castle Ranger District of the Jefferson National Forest by the Cooperative Wildlife Research Unit at V. P. I. to learn more about the birds' fall and winter habits and movements, and is being continued this summer by the Game Commission on the Gathright Wildlife Management Area to obtain similar information during the critical nesting and brood rearing period.

Radio tracking had been used successfully in flat and lowland areas, but its usefulness had not been fully tested in mountainous terrain. Therefore the first objective of the study was to determine whether bio-telemetry could be used effectively to monitor wild turkey movements in the mountains. Provided this could be accomplished, the autumnal size, shape and location of some specific wild turkeys' ranges within the study area were to be determined. Also, the impact of U. S. Forest Service clearcutting practices, and the effect of hunting pressure, habitat preferences, and weather upon turkey movements were to be evaluated.

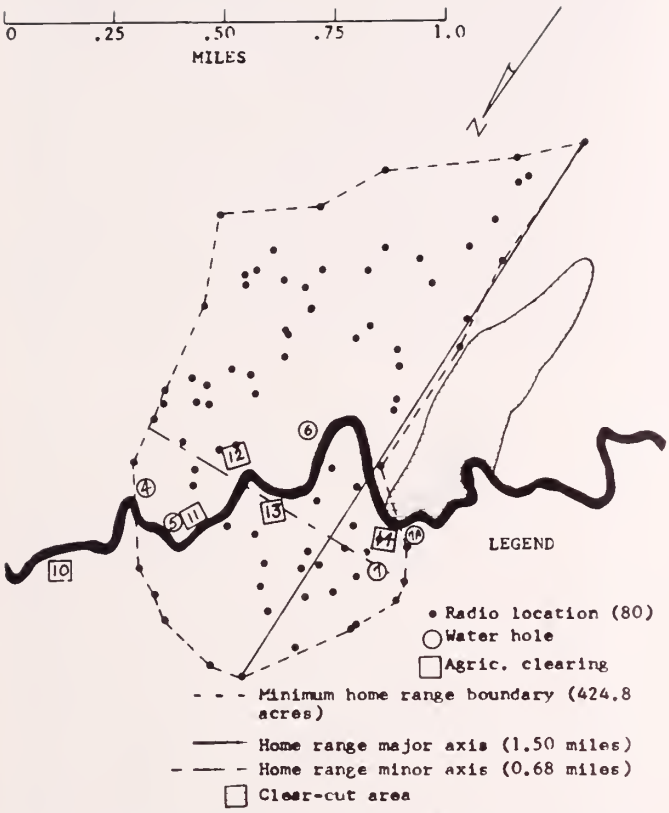
A cannon-projected net trap was used for capturing wild turkeys to which signal-emitting microtransmitters were attached. In this trapping technique each of three mortar tubes is loaded with a propellant charge and a projectile to which the net is attached. When the birds become sufficiently accustomed to a bait site, which may take several weeks, the mortars are fired remotely from an observers' blind, and the net thus thrown over the turkeys.

Practically every waterfowl hunter and many turkey hunters can remember times when, after a long, silent, motionless wait in a blind, they finally decided to give up the vigil as futile and stood up only to reveal themselves at the crucial moment to their hitherto unseen quarry. It happens to biologists, too!

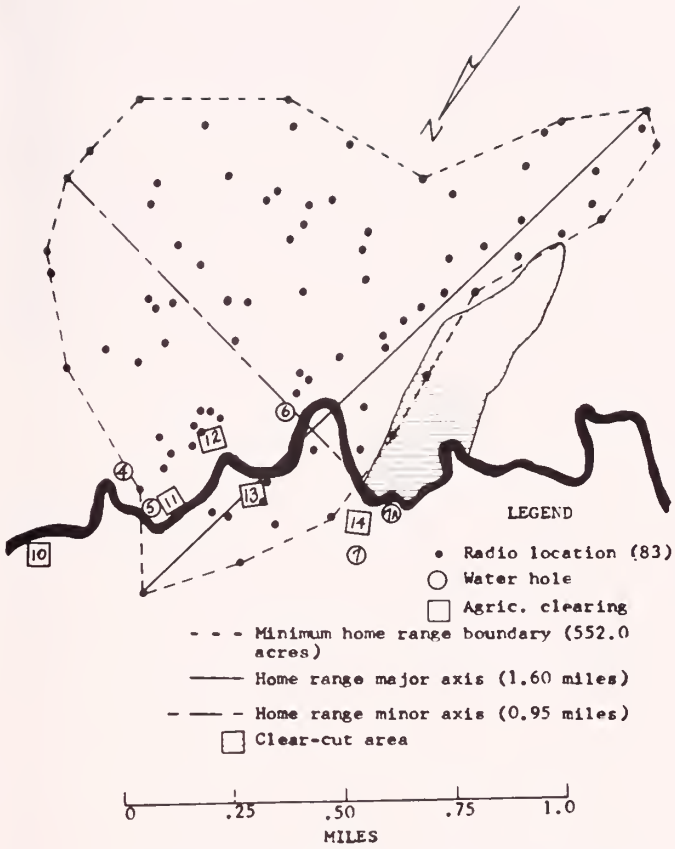
Mike Newhouse, a fellow Virginia Tech graduate student, and I had gone through the third straight day in the blind without seeing a turkey. On this day Mike had chosen to wear a red plaid shirt. We were preparing to leave for the day and Mike was just shaking out the sleeping bags while I disconnected the detonator for the cannon net, when I stood up and saw at the clearing's edge the turkeys we had been waiting for. I whispered to Mike to get down, but the birds had seen us and faded away into the forest. But fortune had smiled because apparently the old hen had not seen us and in ten or fifteen minutes the flock of 11 birds was back. With the aid of the cannon net we captured, leg banded, and equipped with 8-ounce radio transmitters, three immature hen turkeys and one immature gobbler.

In addition to being lightweight, transmitters for this purpose must be small, durable, and long-lived. The prob-

Young wild turkey wearing lightweight radio transmitter.



Minimum home range of 4 immature wild turkeys (3 hens and 1 gobbler), prior to the fall hunting season, Broad Run Management Area, Craig County, Virginia, 1967



Minimum home range of 4 immature wild turkeys (3 hens and 1 gobbler), during the fall hunting season, Broad Run Management Area, Craig County, Virginia, 1967

lems of weight and harness attachment are perhaps the most difficult to overcome. The additional weight the animal must carry will vary with different animals, but as a rule of thumb it should not exceed 5% of the animal's body weight. Each transmitter was designed to operate on a separate frequency in the 26 megacycle range so that each marked bird could be monitored individually. However, these young birds remained with the hen throughout the study so it was not always necessary to monitor the birds individually. The transmitter units were designed to operate from 90 to 105 days, depending upon power requirements of individual transmitters, but operation under field conditions reduced the battery life to 78 to 84 days.

The units were affixed to the body of the birds by means of a harness constructed of nylon webbing. The harness consisted of a saddle, yoke straps, and two lateral (side) straps. The transmitter was riveted to the saddle and the entire unit was covered with plastic electrician's tape to help waterproof the unit and to reduce the possibility that other members of the flock might peck the shiny object and cause it damage. The entire unit was then placed on the bird's back with the yoke straps facing in the direction of the head. The side straps were passed under each wing and riveted together loosely at a point near the bird's breast. Finally, the yoke straps were passed downward on each side of the neck, crossed, and fastened to the lateral strap. Fastened in this manner, the birds had ample room for movement and growth, but could not remove themselves from the harness.

The five-channel portable receivers were small (6″ x 6″ x 5″), lightweight (7½ lbs.), and easily transported. They were equipped with 18-inch loop antennae, and two six-volt lantern batteries were expected to operate each receiver for one year under normal use. Signal receptivity through moderately dense timber and under line-of-sight conditions was approximately one and one-quarter miles. In dense timber and mountainous terrain this was reduced to approximately one mile, but the optimum working range was from ½ to ¾ mile. The receiver units were accurate enough to locate a transmitter within 25 feet at a distance of one-quarter mile.

The time of capture of the birds and the life of the trans-

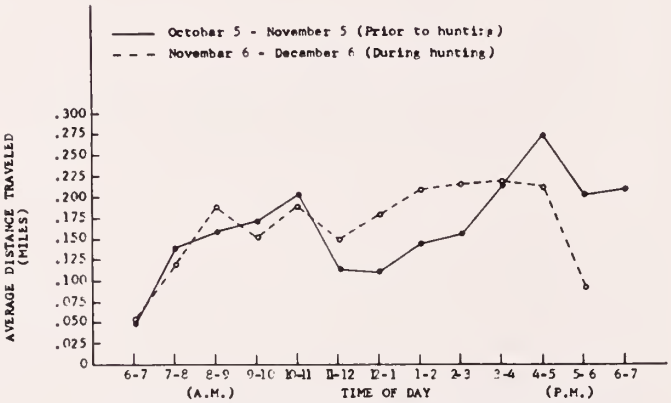
Portable, direction-finding radio receiver. Hunters made an attractive offer for the equipment.

Turkeys (Continued from page 5)

mitter batteries made it convenient to divide the study into two tracking periods: prior to the fall turkey hunting season, and during the hunting season.

In the roughly four-week tracking period prior to the hunting season 80 radio locations were obtained for the marked birds. The home range, the total area used in meeting living requirements, for this period embraced 425 acres. The range used was somewhat elliptical in shape and measured approximately one and one-half miles in length by one-half mile wide. Also during this period the birds traveled an average of 1.47 miles per day returning, normally, to within one-quarter mile of a roost site used the previous night. Roost sites selected were usually tall solitary pines in areas offering good visibility. Most were from the flat areas at the foot of a mountain to one-third the distance up the mountain.

A total of 83 locations were obtained during the hunting season. During this period the home range size increased to 552 acres. Although the range size did not increase drastically between the two tracking periods, the range shape did change. The range assumed a T-shape rather than an ellipse, with the majority of the locations falling along the



Average distance traveled per hour for 4 immature wild turkeys (3 hens and 1 gobbler), prior to, and during, the fall hunting season, Broad Run Management Area, Craig County, Virginia, 1967

top of the "T" corresponding to the foot of the mountain. Both the length and width of the range increased and the average distance traveled per day increased from 1.47 to 1.69 miles during this period. The change in the range size and shape may not be difficult to explain. The number of locations occurring north of the access road through the study area decreased by two-thirds during the hunting season. Hunting pressure in the immediate vicinity of the birds' range was low in comparison to pressure in other parts of the study area, but hunter vehicular traffic was quite heavy. This disturbance factor appeared to have been primarily responsible for the change in the size and shape of the turkeys' range during the two tracking periods.

On one occasion during the hunting season two hunters had hunted the mountain above me not knowing that I was working below them. When they came out of the woods about noon they stopped to talk and to find out what I was doing with all the "gadgetry." I explained that I was monitoring the movements of four turkeys that had radio transmitters attached. The hunters allowed that the turkeys' transmitters and my receivers must have had uncommonly good range characteristics, because they had hunted the whole mountain all morning and hadn't seen any sign of turkeys there. Then I showed them the work sheet for the day. They had been hunting in the exact area in which I had located the birds eight times that morning! They made me an attractive offer for the receiver.

I observed the birds visually only once after they were radio marked, when I watched them cross the road in front of my concealed position. I could see the antennae on two of the birds' transmitters as the sunlight caught them. The harness didn't seem to restrict or hinder their movements. They seemed unconcerned as they searched for bits of food with the others. Actually, attempts to make further visual observations were avoided in order not to disturb the birds' normal movements. When they were close I usually retreated to a more distant tracking station.

Generally the pattern of daily movement could be predicted. Periods of greatest movement were late morning and late afternoon. Periods of relative inactivity coincided with early morning, midday and early afternoon. From this it appears that many turkey hunters who like to enter the woods by sunrise and are ready to leave by mid-morning may be missing some of the best hunting opportunity. Upon leaving the roost in the morning the birds remained near the roost site for an hour or so, perhaps waiting for others to fly down. They would feed and move with increasing activity until shortly before noon, when very little further movement could be detected. Siesta time! About mid-afternoon movement began to increase rapidly until a peak movement period was reached about an hour before dark. Then the birds roosted. While I was never close enough to see the birds going to roost I frequently heard them fly up into the trees and knew the tracking day was over.

One of the transmitters was returned this past fall by a successful turkey hunter, Mr. W. F. Greenway, Sr., of Roanoke, who reported the recovery first to Warden Pat Monaghan. The transmitter was identified by number as having been attached to a young 5½ pound hen when she was captured in October, 1967. She had carried the transmitter for a year and three months, had traveled approximately 5 miles from where she had been captured and released, and neither the turkey nor the transmitter was apparently any the worse for the experience.

Unfortunately, the transmitters did not function long enough to disclose any preferred habitat type. However, it was noted that during the study period the birds did not use the interior of an adjoining 60-acre clearcut area even though the periphery of the area was utilized. Whether this would remain true during other seasons of the year, especially the nesting and brooding period, and in lean mast (food) years, remains questionable and is an area for further investigation.

It is interesting that varying weather conditions could not be related to the turkeys' movements. The birds continued to be active through a temperature range from 26 degrees to 74 degrees, and rain did not noticeably reduce the size of the daily movement patterns. Apparently it is the hunter and not the turkey who is affected by the weather!

Once information is obtained on the extent of the wild turkeys' range under various conditions, during different periods of the year, and types of habitat most frequently utilized, then better management programs can be proposed. Perhaps turkeys can't talk, but they can tell us much. By utilizing modern research techniques, such as radio telemetry, biologists may learn more of the requirements of the wild turkey and be better able to insure the existence of God's Noblest Game Bird!

Commission photo by Kesteloo

Butterfly pea *(Clitoria)* is among the many legumes sought by quail.

Catering to Quail

By MARIE B. MELLINGER
Tiger, Georgia

ANYONE who owns a piece of land can entice bobwhite quail by catering to their food needs. This can be done by leaving a few hedgerows or old fields rich in the weedy plants that quail love, or by planting the legumes and other plants preferred by quail.

Quail have a widely adaptable diet, eating an indiscriminate amount of plant food, including the leaves of many plants such as the wood-sorrel (*Oxalis*). One covey may prefer a certain type of vegetable food, while the same plants may be ignored by another covey. Food habits vary in different parts of the country. Certain preferred foods may be eaten first, and others as a last resort in a cold and famine-ridden winter.

Almost every kind of wild fruit is eaten, and one could make a long list, including berries of gallberry (*Ilex glabra*), greenbriers (*Smilax*), red cedar, mulberry, wax myrtle and wild cherry. The beauty-berry (*Callicarpa*) is eaten in September and October, before frosts. Other fruits, such as persimmons, are preferred after they have been softened by frost. Favored are fruits of blackberry, strawberry, blueberry, huckleberry, dogwood, and gum (*Nyssa*). In some parts of the country the preferred fruits are berries of the Japanese honeysuckle, poison ivy berries, and those of spindlewood (*Euonymus americanus.*)

Quail eat a surprising amount of mast, including beech nuts, acorns, pine seeds, sweet gum seeds, and magnolia seeds. Loblolly seeds are favored above those of other pines if quail have a choice.

Grasses also comprise a large part of quail diet for they use nine species of *Paspalum*, and at least nine species of panic-grass (*Panicum*). They also use the seeds of wild millet, canary grass, and crab grass. They will feed on the tubers of chufa and nut-grass (*Cyperus*), and on seeds of other sedges, such as *Fimbristylis, Rhynchospora and Eleocharis.*

At certain times of the year and in certain areas, 85% of the quail's diet is made up of seeds of the Mexican clover, *Richardia scabra*, a common weed of dry roadsides and old fields. Many of the other plants that we consider weeds, such as ragweed, lamb's-quarters, firewood (*Erechtites*), plantain, and carpetweed, have seeds that are eaten by quail. Many of the weedy plants thus serve a very useful purpose. They even eat the green seed capsules of toadflax (*Linaria canadensis*).

You can hardly name a legume that isn't used by quail, from the seeds of redbud and honey locust, to the leaves of clover and vetch (*Vicia*). Many of the legumes have presumably poisonous properties, but quail seem to eat the seeds without suffering. In some areas they will feed to a large extent on the seeds of the butterfly-peas (Centrosema and *Clitoria*, and the milk vetches (*Galactia*).

In the south the beggarweed (*Desmodium*) is one of the most favored foods. All species are eaten avidly. So, too, are the seeds of the bush-clovers (*Lespedeza*). *Lespedeza bicolor* is planted more than any other plant to give quail both food and good cover. The Korean lespedeza is also recommended for planting, along with patches of soybeans, or millet.

Quail eat a small amount of flowers, even those of the supposedly poisonous jessamine (*Gelsemium*), and some violet blooms.

Quail have a widely adaptable diet. The prolific seed producing goosefoot *(Chenopodium)*, at left, and trailing bush clover *(Lespedeza procumbens)*, below, offer attractive menu items.

CROSSING THE SLAB

By WALLACE OBAUGH
Hinton

THE salmon has had good publicity. We all marvel at the story of his compulsive journey to the headwaters of his natal river, there to spawn and die.

The humble sucker makes a similar pilgrimage. His journey is shorter and less spectacular; he climbs riffles instead of waterfalls, and makes less of a splash in the popular imagination. But the forces that control his migrations are as mysterious and compelling as the instincts of his larger and gamier cousin, and no less worthy of our wonder. Also, he is one of our local characters.

The sucker does not die at the time of spawning, but lives to go back to his downstream feeding areas. I was lucky enough to get a good look at one step of his descent of Dry River.

That stream is well named. In dry times its water goes underground, making of most of its bed a barren rocky arroyo. Here and there are pools that hold enough water to keep colonies of fish alive. One of the deepest and best known of these is the Blue Hole at Rawley Spring, loved by fishermen and swimmers. Another—the one that figures in the story—is six or seven miles downstream, a few hundred yards above Bank Church.

Not as glamorous as the lordly salmon, the humble sucker also makes a perilous spawning pilgrimage.

Commission photo by Kesteloo

A concrete-slab ford crosses Dry River just below this pool. In wet seasons it is under several feet of racing, turbulent water. Usually it is high and dry, the only visible water being in the small pool above it.

The first part of May 1969 had been dry and the river was low. On the night of the 18th and morning of the 19th we had general rains with some good showers. A few showers that appeared to be moderately heavy fell in the mountains to the west, where Dry River has its beginnings. The rain stopped before noon on the 19th.

At eleven o'clock on the forenoon of the 21st I happened to be at the slab ford. A cascade of singing water was pouring into the pool there at its upper end. The farmer who owns the land, with a neighbor, was happily watching the downrushing stream. They told me that the flow had just started, that its time in coming from the mountain was about average, and that it would take about an hour for the water to become deep enough to run over the slab. They also pointed out a group of about thirty-five suckers, of various sizes, that had been harboring in the dwindling water hole.

As the pool filled with fresh water the fish became active. They cruised about in a tight school, very close together. Mostly they stayed near the front end of the rapidly enlarging pool, advancing with the water, exploring its downstream edge. They seemed unconcerned by our presence, although a brisk movement, like a waved arm, sent them scampering away briefly. It was clear that they had their minds—if suckers have minds—on going down the river.

The prediction of an hour to fill up the hole was almost exactly right. At twelve o'clock the water was lapping at the top of the sill. A few minutes later a rivulet was running over it, widening and deepening swiftly.

I expected the fish to cross the slab as soon as possible, but they fooled me. A few of them swam over the edge of it and quickly turned back, as if afraid. The action was repeated and its scope was enlarged; more of them crossed the edge of the sill and ventured a bit farther, but again retreated. They were soon going all the way across the slab to its downstream verge. A few of them went over, but the school as a whole seemed reluctant to make the plunge.

Each fish, as it came into the current over the sill, quickly reversed the position of its body, turning its head upstream. They allowed themselves to be carried backward by the river, using their fins in a braking action to regulate their speed. Each one started its apparently frantic retreat just when its tail was at the downstream edge of the slab.

I think I know how they felt. Instinct was calling them down the river; instinct was also warning them that when they committed themselves to the falling water they would lose control of their bodies. The fall was only a foot, but might as well have been Niagara. And who can say that fear is felt less keenly in a fish than in a man? I believe I was seeing high drama there in the clear water of Dry River.

I watched them for two hours. I did not count the sorties and retreats, but there were more of them the first hour than the second, but with less casualties. I think casualties is the right word; none of the fish seemed to go over deliberately. It looked as if each in turn miscalculated either the pull of the current or its own position or strength, and was swept down. This appearance was increased by two things. In general the smaller fish went first; and each, as it was swept over the brink, made what seemed to be a flop of desperation.

During the second hour the action was slower. The suckers rested longer between trips, but lost relatively more members of the school each time. This was probably due to two related causes: the tiring of the fish and the increasing volume and speed of the water. By two o'clock the business was over.

HAPPENINGS

By KATHERINE W. MOSELEY
Rixeyville

Photos by L. L. Rue, III

HAPPENING is a good dictionary word that became strangely popular sometime ago meaning a form of art. The plural seems right to describe various incidents of wildlife that happened.

For instance, the evening grosbeaks discovered and moved into the town of Culpeper, Virginia, last winter. The *Culpeper Star-Exponent* made much of the fact that they arrived about Christmas. To us it was no surprise. Culpeper is the friendliest town with the finest cooks in the United States. What more could the highly social grosbeaks want? Every other winter flocks of the birds have lingered and visited with us, ten miles out of town. Not this season. A few stragglers happened by to snatch a bite of sunflower seeds before they raced to join the party in town. If the evening grosbeaks are ever fed leftovers from the dinners at the Firemen's Hall, from club and church covered-dish suppers, or the Historical Society picnics, they will never leave. Sunflower seeds would rate a poor second in their choice of food.

However, we were not deserted on our knoll above the Hazel River. In the past quail had often fed shyly under the feeders. Always they slipped beneath the fence to find fallen grain and then retreated quickly. Last winter there were twenty-four quail who confidently expected a meal at any time they hastened boldly to the triangle of grass near the driveway. There were two coveys, one of eight and one of sixteen. They fed at different times. The smaller covey, less confident, approached the area in a cautious single file, close by the protective color of the garden rocks. The larger covey paraded down the hill above the driveway with heads high. All were plump, beautiful birds. They scratched with their feet, lifted their wings, sometimes dust-bathed in the fireplace ashes in the rosebed. One cocky male flew often to the top of the rose trellis. Each covey left in the direction from which it came. One bird would give the signal and the others

A flock of evening grosbeaks at a nearby feeder is a happening worthy of note.

would fall in line to return to the wooded areas.

One morning I was in the kitchen quite early with my coffee. A young, wild turkey was under the bird feeder by the fence completely at ease. I hurried to awaken my husband for two reasons: I wanted his verification of the visitor and it was a sight that must be shared. The young Tom ate without fear and then on strong-beating wings flew to perch on a low oak bough between the house and the river. If he ever returned we failed to see him.

Blackbirds migrate across our place in a southwesterly direction in the fall. One day there seemed to be hundreds of them going over just as a banana-shaped helicopter coming from the southwest whirred itself toward Washington, D. C. The blackbirds, thrown into a panic by the noise and airwaves, winged in every direction to look like masses of commas a printer might have flung on an empty blue page.

We are perhaps the only bird-watchers in the state to have had the dubious honor of a turkey buzzard landing just outside the kitchen window. The crows were prancing about the yard unmolested. An eagle-eyed vulture overhead must have been curious if they had found carrion so it glided

A turkey buzzard landed just outside the kitchen window.

gracefully down. It walked on the ground with a gawky, awkward motion, sniffed disdainfully. Immediately it leaned forward, gave a push with its legs, flapped its wings and sailed off. The great birds are repulsive when close, but there is no more beautiful flight than their soaring, slowly turning, working the wind with the slightest wing-movement. The airflow over the Hazel River valley and the surrounding hills must be right to attract these poised, powerful birds of prey.

A murmuration of starlings sounds poetic but is not. Starlings are greedy, persistent, and a nuisance. Last winter they found us for the first time. Grain, sunflower seeds, suet, cups of peanut butter and oatmeal disappeared immediately. We could not withhold food from the birds that depended on us: the tap-dancing woodpecker family, the soft-voiced doves, the inquisitive, fearless chickadees, the juncos that constantly scissored the air with flashing tails, the gentle cardinals and titmice, even the loud-mouthed jays. I think I solved the problem by voodooism. I found two pot lids that when struck together made a tremendous racket. The minute I spied the first of the starling flock wheeling in, I stepped outside the kitchen door and began banging until I think the hills were shaken. Every bird flew, as well they might, but the starlings flew first and the fastest. Later the familiar birds ignored my banging, but at the first stroke the starlings darkened the sky as they headed for the most distant hill. They drifted back singly and in pairs but never again in flocks.

We have two aging Siamese cats known not by their true names but as Fat Cat and Skinny Cat. In all the years that we have had them they have caught three birds. They are well fed housecats and are kept indoors during the young bird season and always at night and in the early morning.

A murmuration of starlings may sound poetic but is likely to be a nuisance.

Happenings (Continued from page 9)

Long ago they admitted defeat to the frisky gray squirrels. Now Skinny Cat considers rabbits with respect. One early spring morning before the rosevine had begun growth, the cat saw a stir just over the low stone wall behind the rosebush. So over the wall he went. Immediately in the air there was such a surprised upheaval and mingling of cat and full-grown rabbit that it was hard to tell cat from rabbit until they landed. The outraged rabbit hopped to the middle of the yard and turned to see what jumped him. The cat sprang to the picnic table and glared at the powerful-legged rabbit before he slicked his rumpled fur. We guessed it was the same rabbit that led the same cat on a merry chase last summer several times. The rabbit grazed at dusk in the middle of the lawn, the cat crept belly-low towards it. The moment the cat crouched to spring the rabbit bounded towards the woods with the cat after it. Finally the cat crept back to rest. Cats lack the breath for long runs. Before the summer ended both cats simply watched as the rabbit ate as long as he pleased of the green grass of the lawn at twilight.

Skinny Cat is a mighty hunter of mice, moles and, to our sorrow, chipmunks. The lovely, feathery tailed creatures must have burrows under every tree and rock by their numbers. They are naive little rodents and easy prey. Always the cat brought his trophy to show to us. Each time we were sickened by the sight of the beautiful little chipmunk body dangling lifelessly from the cat's mouth. Each time my husband opened the cat's mouth so the chipmunk was freed while he held the cat. The chipmunk lay quietly a moment and then with a surge of energy bounded off to the safety of the nearest burrow. Undoubtedly they, like the opossums and flying squirrels, are thrown into a death-like trance by fear from which they recover if the danger is removed. I have not been able to confirm this in nature books, but it has happened too often here not to be true.

Eastern chipmunk.

The summer of 1968 was rainy after many seasons of drought. We give credit to the rain for the rampant weed crop and swarms of insects, both of which accounted for the bluebird bounty. My husband made three bluebird houses three springs ago when we saw bluebirds in the woods. The first summer's use of the homes was heartbreaking. The houses were claimed but the nests inside were pulled to the opening and any eggs or birdlings were destroyed. We saw why when a great black snake slithered up the tree to where one of the houses was placed. By the next spring the houses were remounted rightly on iron pipes.

Male bluebird at nesting box.

Last summer they were all occupied. We could never be sure of the number of young birds in each brood. The three pairs of parents seemed to have a second nesting and by the end of summer bluebirds were everywhere. They claimed the telephone wire to the house as a favorite perch. From the wire the adults darted after flying insects. It was there the fledglings were taught to fly. About eighteen bluebirds were seen, we are almost sure of our count, as they roamed about in family groups through the trees, over the flowers and in the birdbaths. Their sweet lilting "tru-lu" or "teer-a-lee" could be heard most any daylight hour. We noticed that the birdhouses were often revisited and we wondered if they felt a nostalgic love for them or if they were imprinting for memory the exact location to be used another summer. They remained in the bare trees around us until November —the last of the summer birds to head southward.

Now the days have lengthened again and the soft light of the warming sun bursts flower bud and frond of fern. The hills are sweetened by the flash of wings and fragments of song. Two pairs of bluebirds have been seen and we watch for the third and maybe the fourth as there is now a new house ready. It will be months before we know certainly how they will fare. Well, we hope. There is no happier Happening than when the bluebirds fly.

SHADOW-WITCH is the common name for *Ponthieva racemosa*, a beautiful and not rare orchid in southeastern Virginia. And it begins to flower about September 15 and continues with a few individuals into October. It is happy with us on the shell marl deposits and on the soils with leach from those fossil formations. It finds such situations in Gloucester, York, James City, Surry, Isle of Wight, and Southampton counties, where in many colonies one may count the individual plants by the thousands. Southward the species extends to Florida and Alabama and Louisiana and Texas, to Mexico and Central America, to the Bahamas and the West Indies, to South America. But the plant came to us from the South, and, by geological measurement of time, it arrived very recently. It, like us, is immigrant to this region.

Ponthieva racemosa in flower. Photo by Anne Cutler, Williamsburg, Sept. 19, 1968.

September-blooming orchid of Southeastern Virginia: SHADOW-WITCH

By DR. J. T. BALDWIN, JR.
College of William and Mary, Williamsburg

The scientific name honors Henri de Ponthieu, French botanist, who collected botanical specimens in the Caribbean region in the 18th century. The common name—Shadow-witch—results from the way light filters through the forest canopy to glisten on the leaves of this orchid as they mould themselves to the contours of the soil cover. A romantic name it is.

John Clayton first collected *Ponthieva* in Virginia, to which he came in 1705 and in due time was clerk of Gloucester County. That position gave him a good income for the rest of his life—for fifty-one years—and afforded him leisure to collect the native plants and to develop gardens at "Windsor" on the Piankatank River. He sent his dried-plant specimens to Europe; there they were the basis for *Flora Virginica* published at Leyden by J. F. Gronovius, who had assistance from the great Linnaeus. The part of the *Flora* that appeared in 1739 included our orchid.

Fruiting stage of shadow-witch from Tutters Neck Pond, photographed Nov. 1, 1968, by Charles G. Kagey in studies of Colonial Williamsburg.

Not until 1920—one hundred eighty-one years after the publication of Clayton's record—was *Ponthieva* again reported from Virginia. No record of this striking member of our flora for almost two centuries! Then, on September 19, 1920, Professor Earl Jerome Grimes of William and Mary found this orchid in flower on the west side of Lake Matoaka, in the College Woods and in "rich soil at base of open slope." There Professor Donald W. Davis showed me flowering plants in September of 1938; afterward I came to know Shadow-witch at other stations. From a number of botanical trips to Virginia in the late thirties and early forties, Professor M. L. Fernald of Harvard contributed much to our knowledge of the State flora, including significant records of the occurrence of *Ponthieva*. Now a fair number of people have found the plant here: some to appreciate it in its native habitat; some to photograph it; still others to make herbarium specimens.

We publish a photograph of flowering Shadow-witch from the shore of Tutters Neck Pond near Williamsburg, made 48 years to the day (September 19, 1968) after rediscovery in Virginia of this orchid by Professor Grimes, and one of a fruiting plant photographed November 1, 1968.

Strange that we in Virginia were so dilatory in getting to know this beautiful plant that has leaves that glisten and a flowering-stalk fifteen inches tall with a silvery pubescence on it and with a raceme of handsome flowers; and that we do not grow the plant in our gardens, though it will thrive in circum-neutral soils in somewhat shaded locations. Long neglect of *Ponthieva* typifies our accustomed attitude toward the native plants around us. But I am confident that our perception of the constituent elements of the flora is increasing, that we more and more appreciate plants for themselves and for what they mean in our total environment. That appreciation is timely, even in instances late. We are realizing that the vegetation must be protected against the inroads of "civilization" and that we, after all, are transients on earth exercising stewardship for future generations of human beings; preservation of native plants in natural situations is one of our obligations to millions of people who will succeed us. The time, therefore, to know and to act is now. Shadow-witch is an excellent symbol of the many plants that we must protect.

In the News

Ralph G. Gunter of Abingdon was elected Chairman of the Commission of Game and Inland Fisheries for 1969-70 at the Commission's annual organization meeting in Richmond. Gunter was appointed to the Commission in 1962 and served as Vice-Chairman last year. Doctor Custis L. Coleman of Richmond was elected Vice-Chairman for 1969-70. A. Ree Ellis of Waynesboro, the immediate past Chairman, has been reappointed by the Governor to his second full six year term. Ellis came to the Commission to fill the unexpired term of the late Thomas G. Herring and was appointed to his first full term in 1963. Members of the Commission are limited by law to two successive six year terms, but appointments to fill unexpired terms are not considered in determining a member's eligibility.

Chairman: Ralph G. Gunter, Abingdon.

Vice-Chairman: Doctor Custis L. Coleman, Richmond.

Commission photo by Harrison

Reappointed: A. Ree Ellis, Waynesboro.

John W. Crumb of Oyster, Game Warden Patrol Leader for the Eastern Shore, received international recognition when he was presented the Winchester Conservation Award by William L. Wallace, Vice-President, Winchester Group, Olin Mathieson Chemical Corporation, on behalf of Game Conservation International (GAME COIN) at the 2nd Annual Conference of International Big Game Hunters and Fishermen in San Antonio, Texas. More than 800 sportsmen from 46 nations attended the GAME COIN-sponsored meetings. At left, Commission Executive Director Chester F. Phelps and Crumb admire the bronze mallard specially cast as Crumb's award in recognition of his achievements primarily in waterfowl conservation on the Eastern Shore. In October 1968 Crumb received the coveted C. W. Watson Southeastern Conservationist Award at the annual conference of the Southeastern Association of Game and Fish Commissioners.

Commission photo by Kesteloo

VIRGINIA WILDLIFE ☆ ☆ ☆ ☆

CONSERVATIONGRAM

Commission Activities and Late Wildlife News . . . At A Glance

COMMISSION FAVORS GUN LAW CHANGE. The 10 man Commission of Game and Inland Fisheries unanimously passed a resolution at their meeting in Richmond June 20 supporting Senate Bill 845 and like measures which would remove most, if not all, of the restrictions on the purchase of sporting ammunition. Commissioner J. C. Aaron of Martinsville, who proposed the resolution, said that the present system requiring recording the type of ammunition, plus name, address, date of birth and driver's license or other identification was an unwarranted inconvenience to sportsmen and a farce as a crime prevention measure. A large number of congressmen apparently agree with him as evidenced by 35 senators who have agreed to cosponsor S. 845 and the introduction of some 50 House bills which would accomplish the same thing.

Senator Mike Mansfield of Montana has labeled the complicated regulations as "back-door registration" going far beyond the intent of Congress. Representative Durward Hall of Missouri termed the present regulations a "bureaucratic monster" and indicated that they were a slap in the face to congressmen who voted for the mild-sounding measure but against bills to require gun registration. On introducing S. 845, Senator Bennett said, "Our purpose is to remove an ineffectual and burdensome set of regulations imposed upon American sportsmen. . . . To force this kind of registration upon persons who buy rifle, shotgun and .22 caliber rimfire ammunition is not going to affect the incidence of crime."

Under the law passed last October, a sportsman must furnish the dealer with his name, address, date of birth and a driver's license or other identification. The dealer must record this, plus the date, manufacturer of the ammunition, caliber or gauge and the quantity. On the basis of this information, it is up to the dealer to determine if the purchaser is a criminal, drug addict, mental incompetent, juvenile, or other person prohibited by law from obtaining ammunition. The procedure is so slow and cumbersome that many small stores have quit handling ammunition, according to the National Shooting Sports Foundation. Many feel that such records, if they were organized and filed, would constitute registration of gun owners and the type of weapons they own.

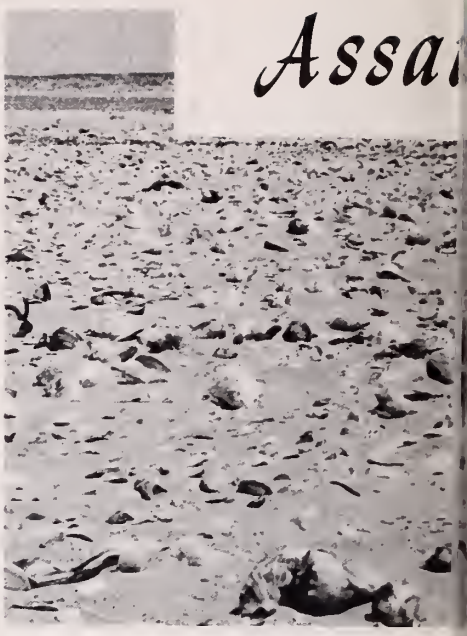
DAMAGE STAMP TO BE REQUIRED IN FLOYD. The Commission of Game and Inland Fisheries has been notified by the Floyd County Board of Supervisors that a big game damage stamp will be required of hunters in the County this fall. The $1.00 stamp is required in 14 other western Virginia counties. Floyd was one of thirty-three counties which have legislative authority to require the local stamp. Formal action of the County Board of Supervisors was required to put the levy into effect. Proceeds from stamp sales are used to pay farmers' claims of game damage and for game conservation projects in the county. Stamps are available from the county clerk's office and sometimes from clerks in surrounding counties.

HOG ISLAND REFUGE CLOSED TO PUBLIC. The Virginia Commission of Game and Inland Fisheries' Hog Island Waterfowl Refuge will be closed to the public until September 30 to permit extensive modification to the entrance road. The road is being raised to the top of a 12 foot fill and will be impassable to ordinary passenger vehicles during most of the construction period. The road improvement and other diking on the refuge is being carried out with free fill materials as a result of excavation work at the VEPCO Nuclear Power Plant Station nearby. The improvements will increase capacity and water control capabilities of the area.

With a bow and arrow carp season in the spring and an archery deer season in the fall, Hog Island is one of the Game Commission's more popular public use areas. Analysis of free use permits required on the area indicates that some 21,500 persons visit the refuge each year. Many persons travel great distances just to study bird life on the area. Over a million waterfowl-use days are chalked up for the area each winter.

Assa

Sand shark is common catch off Assateague and Chincoteague.



ONE day is enough to convince you of the diversity of wildlife available to the outdoor lover who comes to Assateague Island.

The 33-mile long island, the northern end in Maryland and the southern end in Virginia where Chincoteague Wildlife Refuge is situated, was recently made a National Seashore under the Department of Interior's National Park Service.

Assateague is one of 13 barrier islands off the east coast of Virginia, its nearest companion being to the inland side—Chincoteague Island.

It was in mid-May when members of the Virginia Outdoor Writers Association paid a weekend visit to Assateague. It wasn't nearly enough time to appreciate all its manifold attractions.

Assateague, so-named by the Gingo-Teague tribe of Indians to mean "a running stream between," was once under the authority of a Chief Kegotank. Right now Uncle Sam is successfully endeavoring to preserve most of the island pretty much as the chief and his tribe left it.

As H. C. Appel, who is in charge of the Refuge, sees it Assateague is to be more than a refuge for wildlife:

"We want to keep some parts of this island from being so-called 'developed.' We want there to be some place on the East Coast where a person can walk away from civilization and enjoy being alone with nature. We think there are enough people who feel this way to merit keeping parts of the island undeveloped."

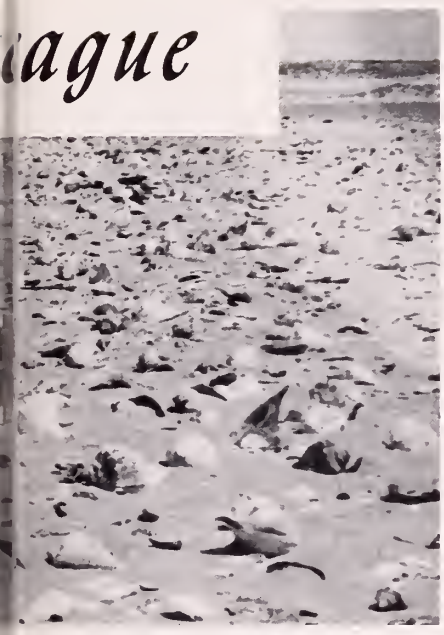
Plans are in the works to eventually have two duck hunting areas set off near the mid part of the island and to establish a fish hatchery in one of the several DDT-free ponds of the Refuge at the south end. The northern part of the island is to remain wild.

Assateague is home or temporary stopping-off place for 275 of North America's 600 bird species. In summer egrets and glossy ibis are common big white and black birds whose wings flap in the air like bedsheets. Ducks of various species also inhabit the freshwater ponds of the Refuge.

The Refuge, administered by the federal Bureau of Sport Fisheries and Wildlife, is also home for such forms of wildlife as the sika deer, the raccoon, rabbit, otter, fox and muskrat. Most noticeable mammals, however, are the ponies, allegedly descendants of a cargo of horses that escaped a

Above, surf fishermen keep lonely vigil on the beach. Below, wild ponies of Assateague, and a flounder which is one of the "bread and butter" sport and food fish in nearby waters.

ague



By BILL WEEKES
Martinsville

16th century Spanish galleon that wrecked off Assateague.

On the beach, sandpipers, all types of which are referred to as "peeps," race up and down the beach, eluding the incoming waves while hunting the tasty mole crab which buries itself in the sand. At times a whitecap will creep up on the bird and it will take off to join other winged varieties that sweep over the briny blue. Sea gulls, herons, that fly with their feet straight back, oystercatchers and skimmers, that sweep down across the top of the waves and snatch up a fish as if by magic, are other seaside varieties at Assateague.

During the early summer months the shells of countless horseshoe crabs litter the upper beach. During late spring nights, when the gulls are asleep, these ancient species of life march out of the sea up onto the sand, lay their eggs and return to the sea with the high tide. Those who miss the tide bury themselves in the sand until the "boat" returns. If daybreak arrives during the interim, however, the early rising gulls may spot these crabs, swoop down, upend them and gorge themselves on the crabs' soft underside.

This crab, not really a crab but related to the spider and scorpion, existed as it is today 150 million years ago, long before the prehistoric monsters.

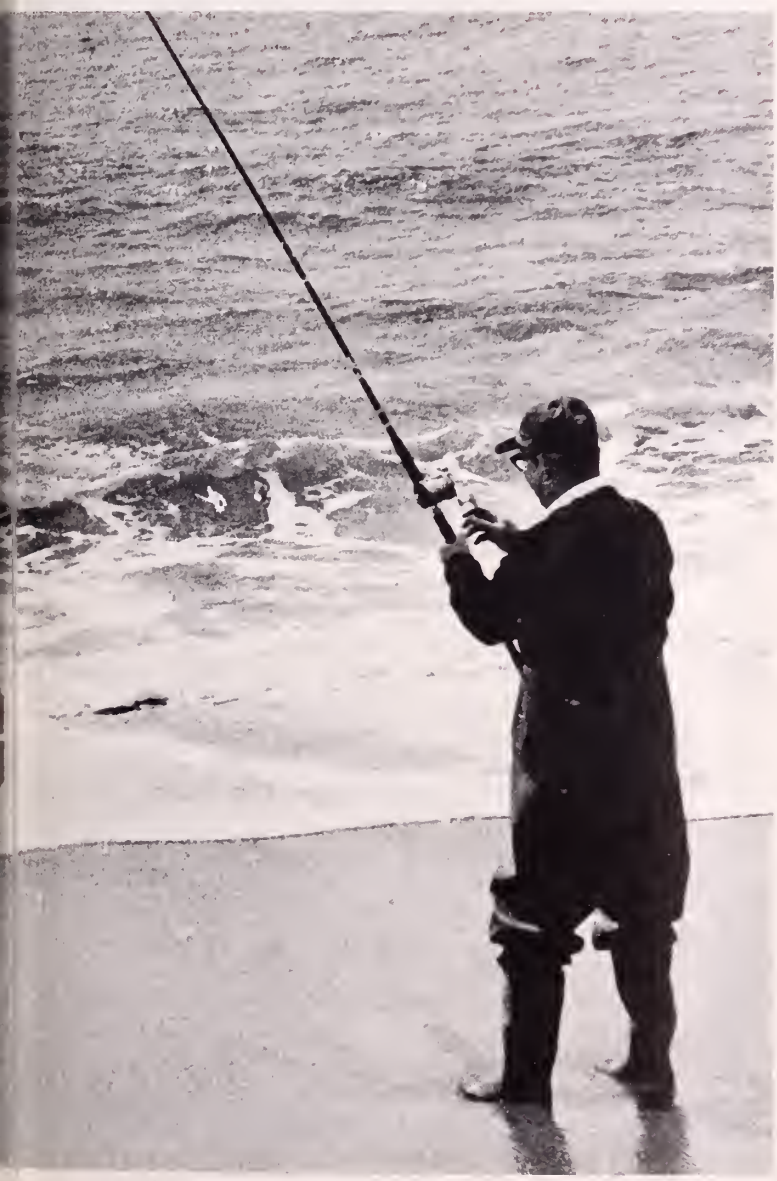
Sixty pound channel bass, or red drum, hooked by John Sedalisky, a visitor to Assateague from Cherry Hill, New Jersey.

If one follows the island to its southernmost point, where the "hook" embraces Assateague Cove (which in turn embraces Tom's Cove), one finds the beach littered with an abundance of seashells. According to one seashore guide, Assateague, because of the conditions of sea tides and currents, is the site perhaps of the most diverse variety of marine shells on the East Coast. Common samples are tulip, oyster and clam shells and whelks. Also on the beach one finds black sea skate egg cases.

Assateague is noted just as much for the denizens that roam off its shores as for those on them. Beginning in April and extending through November, the drums roll, the flounders flip and the blues rip. Keeping the sandpipers company are surf fishermen who stand like sentries beside poles embedded in sand spikes at 45 degree angles. During these spring to fall weeks, surfers are rewarded by delicious flounder, voracious blues, rotund black and red drum, stripers, kingfish and weakfish.

Off the "hook," where a record cobia was hooked last year, a few members of the Virginia Outdoor Writers As-

on sections of the beach are covered with fascinating sea shells. Below: Surf fisher-
n ompletes a far out cast in the hope that the sea will yield up its bounty.



Underside of a horseshoe crab. These shells much in evidence on Assateague beaches.

Hundred year old lighthouse on Assateague is operated by the Coast Guard.

Assateague (Continued from page 15)

sociation experienced extremely good luck in catching the blue. Some said they came about a month early because water in the shallows was warmer than usual. Most of the blues snagged off the surf weigh two pounds while the flounders range from two to 12 pounds. Red drum, or channel bass, have been brought ashore weighing more than 60 pounds while the black drum around Assateague can run more than 80 pounds.

Assateague and Chincoteague are companion to Fisherman and Wreck Islands which have been preserved as wilderness areas while nearby Wallops Island is a restricted NASA installation site. Land speculation could threaten the preservation of various other islands as wilderness refuges. Only time will tell whether they will remain "undeveloped."

A boy watches fisherman try to subdue channel bass in the surf.

Let's Have a Clambake

By MARJORIE LATHAM MASSELIN
Richmond

THE clambake is claimed by New England, but I see no reason for it to remain private property. Virginia waters have everything New England waters have with the exception of that worthy crustacean the Maine lobster, and during the clambake season we have an equally worthy crustacean that makes an admirable substitute if not a downright improvement—*soft shell crabs!*

Now, an old timey clambake is a very impressive affair, and while I am sure that in retrospect I often make my grandfather into a larger-than-life character, the fact is that he was one. Never did he loom any larger than when he was presiding over our Fourth of July "Bake." In those days they were an event. Today, I suppose, one would call it a "Happening." Everybody who could wangle an invitation and a good many others who never considered an invitation necessary (as indeed it was not) arrived on the scene. Most of them came early enough to work and were promptly assigned to some by Grandfather. That included everyone from our rotund little rector who came puffing up the hill on his bicycle to my very proper godmother who arrived by parlor car, and, in stepping elegantly down from the train, always managed to convey the impression that Union Station was particularly full of bad smells.

The whole thing actually began the night before the Fourth, when the fire was laid in the bake pit. Logs and kindling went in first. Stones, somewhere between the size of a large eggplant and a person's head, were placed on top of the logs, and then more wood was piled on the stones. Once lighted, the fire had to be tended all night. Mainly, I suspect, that was for showmanship, because there was nothing much around that was likely to catch fire and what there was got watered down pretty thoroughly. By mid-morning on the Fourth the fire had burned down to ashes and embers; the stones were white hot and ready to receive the bake.

Beginning shortly after dawn, when Grandfather raised first the household and then the flag, everybody was engaged in getting the bake ready for the stones. The truck was sent off to Wickford to pick up the bushels of clams, lobsters and seaweed that had been ordered and were waiting. Corn had to be pulled early, before the sun hit it, the husks peeled back carefully to remove the silk and then as carefully replaced to protect the tender, golden kernels. Long, mealy baking potatoes and sweet orange-colored yams got a good scrubbing, and when the clams arrived they got washed . . . and washed . . . and washed some more in running water because soft-shell clams have a positive genius for secreting sand.

Those are the basic ingedients for a clambake, and the only ones that Grandfather used. There are differing opinions. Some people add fish filets, sausages and once I was assured that a whole salmon was a "must." However, the expert who advocated it never made it clear to me exactly

how the fish was retrieved from the bake pit once it was cooked. Even wrapped in parchment or foil as the filets and sausages were, that salmon would present a major problem in logistics. I discount it as Grandfather did.

Now watch carefully while Grandfather supervises the assembling of this masterpiece.

Onto the hot rock, a layer of damp seaweed is spread quickly with efficient pitchforks. On the bed of seaweed, which almost at once begins to send up a cloud of acrid stream, there are placed in this order, the potatoes, the corn, the lobsters—or in our case the soft shell crabs—and the clams. Over that a first tarpaulin is thrown and then another layer of damp seaweed is spread for insulation. Finally, a second tarpaulin is placed over all this and secured with stones to seal in every last wisp of steam.

All this was done with aplomb and lightning speed to preserve the heat and the tantalizing aroma of the steam. Once that second tarp went on, that was *it*. Nobody was allowed to *approach*, much less to *touch* it, until at exactly four o'clock Grandfather took out his gold watch, flipped open its cover and after a suitably dramatic pause announced that he guessed it was "time to try it."

That meant that one edge of the tarps would be raised cautiously while someone fished out the largest potato, strategically placed for easy access at this crucial moment, and broke it open. If it proved to be perfectly cooked, as it unfailingly did, the Bake was pronounced officially Ready. Then, when everyone was lined up with a large soup plate to receive his first batch of "steamers," the tarps were thrown back one quarter and the clams fished out.

Of course there were plenty of other things to be done during that interminable six-hour wait. Pounds of butter had to be melted and set out on the tables over alcohol burners. Buckets of crisp garden lettuce, slim cucumbers and plump tomatoes got assembled into salads. Dressings were made. Ice cream freezers had to be turned and, in the kitchen, the more serious business of making the blueberry pies and Indian Pudding that went with the ice cream was in progress. Not the least of all these simultaneous efforts was the making of the chowder and clamcakes that were served at noon.

In those days I always supposed that this noontime "snack" was solely a concession to us children—an effort, so to speak, to ward off starvation and prevent untimely deaths among the younger generation, for it seemed to me that grown-ups *never* got properly hungry and that they sat down to eat with us only to watch over our table manners and correct them. Their only purpose, I thought, must have been to prevent our abandoning ourselves to pure enjoyment of the Roman banquet. But you know, the last time I attended a clambake it was as one of those grown-ups and it seemed to me *then* that I was just as anxious for that chowder to be served as the youngsters, who, as we had done, began scrubbing their noses against the screening of the kitchen door about ten thirty and kept it up at regular intervals demanding plaintively on the occasion of each visit, "Gee, Grandma, isn't it ready *yet?*" I guess I was just born hungrier than most, but those *were* long hours.

Before we get started making clam chowder, let me give the beginning cook a short dissertation on clams. There are two different kinds—hard shell and soft shell. Each has a definite part in the clambake, but neither can be substituted for the other.

The hard shell clam is the one that is rather roundish. When they are small enough to be digestible, they are often eaten raw. Served in this manner they are called Cherrystone Clams or Little Necks. When I was a youngster they were considered to be edible raw only when they were somewhere between the size of a quarter and a half dollar, and they were *always* called Little Necks. Once they grew beyond fifty cent size they became Quohaugs and acquired a sort of limbo status. They were considered too strongly flavored and too chewy to eat raw and they were not yet large enough to make good Chowder Clams. When they got to be around three or four inches across, *that* was when we dug for them madly until we had unearthed six or eight of them, and then ran round to the kitchen to deliver them, secure in the knowledge we would get clam chowder for supper.

These big ones are so tough that they must be ground up in a food chopper after they are opened, and they are strongly flavored with sea—exactly what one needs to make a perfect chowder! They have the strength of character to flavor a broth which, in order to marry its flavors, must simmer slowly for hours affording ample opportunity to cook the clams tender.

The soft shell clam is more elongated and elliptical in shape. I have never heard of anybody who ate one of these raw! They are always sandy, and they have a discouragingly ugly black membrane covering an almost equally ugly black neck. The membrane must be removed before eating the clam, but it slips off readily once the clam is cooked. The only known purpose for the neck of a cooked clam is that it makes a convenient "handle" for the diner while dousing the clam in drawn butter preparatory to devouring the rest of it. One does not eat the neck unless it happens to belong to a *very* tiny clam that got in by accident. They are impossible to digest.

Soft shell clams are called "steamers," and they are the first course served at a clambake. Purists insist that steaming is the *only* treatment for them. I confess to being a purist. Their flavor is extremely mild, and when they are dipped in batter and fried in deep fat, their flavor is entirely lost. All that one tastes are the batter and the fat.

But steamed . . . ahhh! . . . especially steamed as they are at a clambake, these uncommonly repulsive little mollusks really come into their own. A real, honest-to-goodness, dyed-in-the-wool clam-eater can go through upwards of eight or ten soup plates full of them at a sitting. The average is six plates full, and that is *before* one is expected to settle down to the more serious business of consuming the rest of the bake. The remarkable thing is that I can never recall having seen a left-over steamer at a clambake.

NEW ENGLAND CLAM CHOWDER

For about two quarts of chowder, start with a dozen or fifteen "really big" chowder clams. Open them, by steaming if you wish, discard the shells, grind the flesh and strain the liquid used in steaming through fine linen. Set all this aside.

In a large kettle, try out (that means fry slowly until all the fat is rendered) a two-inch cube of salt pork which you have diced into the smallest of smidgens. When these little "fried things" are brown and crisp, drain them on a paper towel and keep them warm. They are to be scattered over the top of the finished chowder at serving time.

Into that lovely fat in the kettle, cut one or two onions, depending on how well you like onions. For this amount of chowder I like about a cupful, sliced. Cook them until they are transparent, but do not let them brown. Add two or, at most, three cups of rather small diced potatoes, cover with water and simmer until they are tender . . . *just* tender. Add the clams and clam broth and continue cooking, covered, at

a slow simmer until the clams are tender, the flavors married, and the potatoes, which are the only thing one is supposed to use to thicken this broth, have begun to crumble their corners away but have not yet shown signs of total disintegration. A variety of other media often get used to thicken a chowder but it is strictly against the rules to do this and is clearly in the same category as cheating at cards.

When the potatoes are just right, there should be about a quart of chowder in the kettle—possibly a little more. If so, it should be cooked down a bit. Leave the cover off and raise the heat a trifle to accomplish this. When ready to serve, pour in a quart of half-and-half, bring it just to the point of boiling without actually letting it boil, and then ladle it into a soup tureen, put a lump of butter on the top and scatter on the "fried things."

With it, one should serve clam cakes. Some people prefer chowder crackers—or say they do, especially if they do not know how to make clam cakes.

CLAM CAKES

To make a good clam cake one needs an extra cup of those good strong chowder clams ground up. A scant cup will do. It is necessary to plan ahead and reserve these when preparing the chowder. It is also important to plan on keeping a running crew between the stove and the table because a clam cake *has* to be eaten hot and crisp from the cooking kettle in order to be eaten at all. About the only thing to be done with a cold clam cake is to feed it to the gulls, and sometimes gulls reject them.

Have a deep kettle of good hot fat ready to fry.

For a cup of clams, start with 2 eggs, beaten. Thicken this with flour. Self-rising flour is great for the job because it need not be measured as added in order to get the right amount of baking powder in later. Add the clams and then thin the batter with milk until it is of a consistency that leaves a little trail of batter and droplets as it comes off the spoon. It is usually necessary to fry one or two test cakes before getting it exactly right. If the batter comes off the spoon all in one nice round chunk, it is much too thick and will have a moist and doughy center that either never cooks at all or, if it does, will still manage to taste as though it had not. Each cake should be small and have a little "handle" of the runny batter attached. They really do turn themselves over in the fat when they are cooked on one side—providing, of course, that the surface is not over crowded. Keep them small, cook a few at a time, and after draining quickly on paper towels send them straight to the table.

This is the same batter one should use to fry soft shell clams if one really insists on the idea. The only difference would be to use whole soft shells, minus the neck *please*, and drop each clam in the fat singly. Like clam cakes, to be eaten at all they must be hot and crisp. A touch of malt vinegar—the kind one gets on English fish and chips—is a vast improvement over tired tartare sauce.

In Boston, there is a marvelous restaurant, or there used to be—I have not been there in years—called the *Yankee Fisherman*. They served us a very decent clambake, and it was done in a rather unique manner which you might like to try if the bake I have described sounds like rather a project. They do each bake individually in a large black iron dutch oven. Wet seaweed goes in the bottom of the kettle and the other items, as I described them, sit on top of it. Covered tightly, it can be simmered over low heat to steam the true flavor and savor of the sea into your dinner.

Neat, eh?

AS IT WAS, IS NOW,

THE main setting for my reminiscing is an old farm and home in Appomattox County, Virginia, which you may be too young to care anything about. If that is so, just pass this up and look for something else to read. But wait a minute! Regardless of your age or experience it will not hurt you to read this presentation of a rapidly changing world that man may soon be unable to inhabit.

First I may say that for fifty years I have lived near the mid-Atlantic coast south of New York City, and in that time changes have come here enough to break the heart of a conservationist. My early experience in this region was associated with an area of excellent farms supplying the cities with fruits and vegetables and other foods. Open land was abundant interspersed with copious woodlots and browsing growths suitable for such wildlife as deer, pheasants, quail and other less valuable small game animals. The beaches were clean sand broken here and there by weedy inlets and swampy tidelands good for the production of various kinds of marine life.

Many beaches, especially those along the bays unwashed by powerful ocean waves, are now permeated with wastes from ships, oil refineries, factories, sewage, oil and grease discharged from millions of cars and washed off the roads into the streams by rainfall. Swamps have been drained or filled no longer affording a shelter for spawning fish and other sea creatures. In this situation crabs cannot exist, oysters are gone, any clams that remain are a hepatitis menace unlawful for food, and fish also are a dubious quantity.

Every acre is now used or is destined for housing developments, shopping centers, or immense industrial concerns. The once pleasing farms are cut to pieces by more and more turnpikes and parkways with their burgeoning approaches that destroy beautiful trees and replace them with unending blacktop.

What I have described represents a change that has taken place on the entire coast from Maine to Florida.

Man's greed, ignorance, and indifference to the results of this "progress" has polluted the air, perverted the land, and made rivers and shores unrecognizable as natural necessities. The billions made in his schemes now must be returned to restore, if possible, what has been so wantonly destroyed. In his speed mania he may fly away from these blighted and accursed places, but no permanent escape is possible. No revolution in history can equal that which must occur if this pitiless devastation is to stop.

I wish now to linger awhile in a throwback in Virginia to a slower time often referred to derisively as the horse and buggy days. It had its real disadvantages of course, either muddy or dusty roads, lack of conveniences, but in many ways was more in keeping with nature.

The house in Virginia in which I was born and where I lived to manhood was built long before 1769, a date marked by my ancestor's will bequeathing the estate to his son. For over two hundred years it has been in the continuous possession of my forebears, a fact that I mention to show the great age of the place and to express pride that it was held so long by my own people.

AND...?

By FRANK S. HARWOOD
Keyport, New Jersey

Generation after generation each family that occupied the home was large, usually not less than ten, but there was room for all. This generous space in the house and farm as well as the nation and world then justified the numerous children, though we know a time has come when everyone must guard against this prolific reproduction if we are to avoid disaster.

In that house besides the extensive combined living room and dining room downstairs as well as kitchen and storerooms, there was a great parlor on the next floor and an equally large main bedroom adjoining it where parents and tots could be located for sleep. Alongside these were two other spacious bedrooms. On the top floor over the parlor and main bedroom were two more rooms the same size as those below with one difference—their sidewalls went up only about five feet then slanted with the rafters to a suitable height for the ceiling. An extra provision was made by a structure projecting from one end of the house with a ground floor large enough for three beds in perfect comfort while a winding stairway in one corner led to an attic neatly finished off and well adapted for more sleeping quarters. This addition was heated by a cast iron stove with flue up through the attic for warmth there and thence into the main house chimney.

At each end of the home was a chimney 58″ by 45″ affording five fireplaces in as many rooms; so, with plenty of wood there was sufficient heat everywhere. The vast chimneys were said to have been made with brick brought from England, which may not have been the case, but the bricks were extra large and were well made wherever they came from.

The woodwork of the house showed indisputable evidence of construction long, long ago. The foundation walls of rock masonry reached to the first ceiling and on them rested oak sills 13″ by 13″ with cross beams through the middle of the building of the same size, and from them were laid floor beams 4″ by 8″, all sills and beams having been hewn by broadaxe. Studding for the upper rooms were 3″ by 4″, as were the rafters, all being centered 24″ apart.

The walls of the first floor were merely whitewashed masonry, but upstairs the walls and ceilings were plastered on handmade laths. All doors were exactly alike of an ancient type, 36″ wide and 6½′ high, with six panels, four lower ones 21″ high and two uppers 12″ high. The door locks and knobs would now be regarded as antiques. The six rooms upstairs in the main building had wainscoting of unspliced boards, the center one being 24″ wide with an upper and a lower section 8″ wide. A peculiarity of these boards is the fact that the reverse side as seen from an attic shows saw marks not circular but straight up and down. Plainly they were not sawed by hand over a pit but by some mechanical device operated by water power that moved the saw evenly and not uncertainly as it would have been if by hand.

The roof was made of shingles shaved out by hand from live chestnut trees whose straight-grained billets, cut the right length and split and smoothed with drawer knife to perfect proportions, made a surface durable for forty years or more unpainted. Under that roof on the east side of the second story, instead of more rooms was a porch the full length of the building, making a delightful place to sit and rest almost any time of the day, shaded from the hot sun by enormous aspens bordering the lawn on the west side.

The old house provided comfortable sleeping room for a family of a dozen or more, with extra space for frequent visitors without being crowded. That was one of the delights of life in that age as the young people spent a night often back and forth from one home to another. Large homes were customary and necessary. However, in keeping with the times no bathroom equipment existed nor any water on tap at all. Drinking water had to be fetched from the excellent spring a hundred yards away. It was the source of wash water, too, except for what was caught from the roof in rain barrels at downspouts. A large well near the house always supplied plenty of water, but it could not be used for drinking, cooking, or washing since it was extremely hard. Recently I had it analyzed, this being the report: Total hardness 320; calcium hardness 140; magnesium hardness 180. Soap curdled in it; cooking utensils became coated with a hard deposit; and it had a strange taste for humans. Yet horses and cattle loved the water and would leave any other source to quench their thirst in the drinking tub of that chemically loaded fluid. Maybe they knew by instinct that the mineral solution was good for them. I am told that we humans need both of these substances, and to think we had plenty but would not use it! Oh! To live life over again! It was fun to see the oaken buckets splash down in the shimmering surface of the well, but to draw up enough to satisfy twenty or thirty animals was a chore!

Today we think of such a home, without tap water or bathroom or central heat, as very inconvenient and so it was. But all were like that and so no one fretted.

It was under these conditions that my life began long ago. Our parents one after another passed away, and all of us, as we reached maturity, went elsewhere to live looking, as we thought, for something better.

Some of us repaired an old log cabin on the estate located pleasantly among large oak trees probably a hundred years old, and equipped it with beds and necessary furniture for a resort when we had time and inclination to stay there a week or two. It was fun to rough it far from all the rush and clamor of city life. The place required a minimum of care and gave us a chance to relax, eating what could be prepared without much effort. It was a return to nature undisturbed by traffic or airplane noise. The air was clean, the water pure. For a short time we enjoyed the simple life again, like that of our ancestors but minus the hard work each day brought to them.

One of those oak trees had become laden with an unusually large number of bunches of mistletoe. Hardly a limb but bore several collections of the beautiful green foliage and white berries of the famed growth. It was a sight to see! But before many summers had passed we noticed the tree was beginning to die, and rather quickly it gave up entirely. Undoubtedly the mistletoe was too much for it. Finally all that remained was the stark bare trunk and limbs. We had

As It Was . . . (Continued from page 19)

to cut it down—a victim of beauty!

A charming experience during those vacation days was to watch the birds so busy with their housekeeping. A wren made her nest on a ledge under the roof of our cabin porch and reared her young with unstinted work and devotion. I wondered how on earth she could find enough insects to supply those hungry mouths! But she did until they were able to get out and fare for themselves.

I was resting on a cot on the porch one day when I noticed a hummingbird approaching and leaving what seemed to be a small knot on a branch of one of the oaks. Curiosity caused me to study her behavior carefully enough to see that she had a nest on that limb, a nest unbelievably small but sufficient for her little eggs and brood. I had never before imagined how a hummingbird reproduced herself and now I had seen it with my own eyes.

Photo by L. L. Rue, III

Hummingbird on nest.

This thing of birds' nests set me to recalling other nests I had observed in my youth on the farm. We boys were much pleased to find a buzzard's nest, if it deserved that name, in the hollowed out bottom of an old dead chestnut tree. Actually there was no nest at all, just a convenient cubbyhole formed there by decay of the trunk. But it was exactly right for the bird. When we found it the two young were newly hatched balls of yellow down. They developed fast and soon were able to toddle around in their home. They showed their displeasure at our presence by hissing and breathing bad breath at us. Boylike, we teased them a bit by poking them gently with sticks. Their defense to this was a prompt regurgitation of the last meal in our direction. This was not very agreeable to us, and I am glad we had sense enough to go away and leave them in the care of the mother. Our interest in them led us to visit the place from time to time until they were almost large enough to fly. One ran out of the nest and crawled away into a hollow log that lay nearby, a more secure hiding place. I peeked in but it had gone out of sight in the dark recess. In an investigating turn of mind I followed suit, getting only half my length inside. Then I proceeded to back out but to my dismay found I was stuck, for my jacket slipped up around my shoulders wadding me in tight. Frantically I struggled. 'Twas a good thing I was not alone for it took heroic measures by my brother to drag me out with skinned shoulders. We went away hoping the baby buzzard would have better luck than I did. Our next visit found they had deserted the place so we figured they flew away. We'd had enough of the buzzards for awhile!

Turning to a more pleasing kind of bird and its nest, I remembered as a boy walking by one of our orchards and seeing a bluebird scoot out of a little hollow stump. I could hardly believe this stump only two or three feet high with a short opening at the top would be a safe place for a bird to nest but sure enough in plain sight were the tiny eggs. A cat could easily have destroyed her efforts to produce her young, but luckily she brought them to maturity. How I have wished the bluebird boxes in my present back yard might tempt a pair to nest there, but all in vain! The confusion of humans ganged up around here is not the place my feathered friends ever chose.

It was a delight in those happy days long ago to make a little dam in the creek near the bridge so we children could take a dip and find coolness on hot days. Once while splashing in that pool I was distressed to discover a rubbery black object dangling from my shank firmly attached to the skin. My brother informed me it was a leech. We yanked it off but it had already sucked enough blood to be the size of my little finger. How disgusting to have such a thing drinking my life's blood! I washed away the dripping red from the pinhole the leech had made.

As we left the water and climbed upon the bridge a peewee flew from its nest on one of the sleepers. It was always a matter of amazement how that bird could stick its nest against a sill by simply daubing mud and moss there until it had the shape needed for the eggs. Sitting on the bridge awhile we watched the bird rest on a twig, then dash into the air and pluck a fly or mosquito and return to wait for another victim. We knew the peewee was a valuable aid in preventing insect overpopulation.

A more remarkable example of a bird fixing a nest to a wall is that of the chimney swift, which in large numbers at dusk used to swirl and dive overhead catching insects in flight. They found our large chimneys unused in summer, just the place to attach their nests. What a roar they made coming down and going out! It was a mystery how they could clean a smutty brick inside a chimney and glue enough material on it to form a nest, but they did it each summer and reared their young in the dark place. The noise the little ones made as food was brought, each clamoring for his share, was greatly intensified by the acoustics of their location. It was somewhat like one child yelling to another through a metal culvert under a road.

I remembered distinctly an effort of mine while small to see one of these nests in the chimney. Our sitting room fireplace was made for cooking food as well as for heating the room, and I knew up across the space over the fire was a strong iron rod which supported the adjustable crane on which pots hung in cooking. No fire being in the place, of course, permitted me to crawl up and stand on the rod to see a nest. Well I saw a nest and more too! Presently I was terrified to feel that night had suddenly come upon me in the few moments it took me to get where I was. Out of the top of the chimney I could see stars shining bright as could be! Down I came fast as possible to know what had happened to the world. "It's nothing!" I was told. "You can see stars from any deep place, as a well." Was I relieved to know I had not experienced any crazy upset of everything! And I was also glad to find that my mother laughed at my soiled clothes instead of giving me a bad time.

I lived over again in memory our sitting on the lawn as

darkness drew near resting after the day's labor. Often our ears were filled with the call of the whippoorwill not far away in the road repeating interminably its one word, whippoorwill, whippoorwill. I have known that sound to be heard for hours upon hours almost all night. Don't they ever get tired!

One day I was walking through the woods when suddenly right out from under my feet fluttered the familiar bird just mentioned. I wondered why it almost let me step on it before escaping. Without stirring I looked carefully by my feet and to my surprise saw two eggs lying on the leaves as if they had been left there by accident, for no form of nest was there nor any material collected for additional warmth in incubation. This was my one and only discovery of a whippoorwill nest.

Photos by L. L. Rue, III

Whippoorwill is hard to spot on the ground.

Every spring the turkey gobbler's call could be heard from some spot in the woods best suited for his romantic intentions. That meant a hen turkey's nest would after awhile be tucked away somewhere, but I never managed to know where. Finally she would be seen leading her large brood in search of food. It was indeed thrilling to see such a flock. How we hated to think some unprincipled man of our neighborhood would shoot the frying sized poults! By the legal hunting season half of them would be gone.

As for the quail, one had only to walk cautiously along a hedgerow and look closely at the soft hen nest grass until maybe a little rounded cover over the nest would appear. The mother quail evidently had squirmed her way under the overhanging strands until she shaped a place large enough to hide her body and there deposit her eggs. The location would be almost invisible without the most careful scrutiny. 'Twas amazing how so small a bird could cover and incubate a dozen or fifteen eggs, but she did. And when they were hatched the tiny chicks immediately followed her in the hunt. If a person happened to walk into the midst of them, away she would tumble seemingly badly wounded, hoping I suppose that the intruder would run after her and so abandon the little ones. Once I came upon a clutch feeding, and having heard about her ruse I just waited where I was to see if any would move. Sure enough one itsy bitsy duplicate of its mother scuttled out and ran away in the grass. How could such pretty darlings hatch out and at once be perfect reproductions of adults!

The most intricately constructed nest of all was that of the oriole. More than once after leaves were gone in the fall I had seen a nest swinging from a bare limb, the cleverly formed home having finished its purpose. Only once did I find one while in use. Who taught that weaver how to hang the nest by strands over a limb and construct a pocket for her eggs such as perhaps no other has ever equalled? I read that the oriole stripped threads from a dried stalk of milkweed for fibers to knit her home. I then planted milkweed for fibers in my N. J. garden to help the wonderful builder but none ever came near. Again I blame their absence to man's crowding them out, for orioles don't live here any more.

Most intricately woven nest of all was that of the oriole.

I cannot explain why birds are so entirely different in their ways of planning for offspring. The buzzard and the whippoorwill just lay eggs on the ground with no material gathered around them at all. The quail without much trouble framed a hiding place rounded out under overhanging soft grass. The wren collected twigs and grass far more than necessary until she had a bunch as big as your hat. The peewee daubed mud against a bridge beam so securely that the pounding of wagons overhead never loosened the nest. The chimney swift thundered down inside the black chimney and glued sticks to a brick to make a firm ledge on which to rear her progeny. The hummingbird formed a little ring on top of a limb just enough to prevent her tiny eggs from rolling off. All very interesting and very wonderful. And these are only a few examples of the wonders of nature.

I was awakened from my reverie on the cot by the tenant's wife calling for help. I went to learn the trouble and she said a cow had dropped her new-born calf into a mud hole with its head just above water. It would drown if we could not lift it out right away. I went to assist but the mother cow did not like a stranger and shook her horns at me. Fortunately just then the tenant appeared and without a moment's hesitation grasped the unlucky calf by the head and lifted it out. At first it was too weak to stand up but soon got on its feet and began getting a first meal of warm milk and cholesterol.

I asked the lady how she knew the cow was in trouble. She said one of the other cows came down to the house plainly much excited, lowing and acting strangely. When she came near the cow it turned and led her to the scene of the mother cow in her distress. Even this domestic animal had shown astonishing wisdom, almost human in its nature. It was the talk of the group for some time.

Here I am now back from the stimulation of vacation experiences and recollections, back in my study pecking on the typewriter. Dear to me are those living memories of my boyhood as well as of relaxation in the log cabin. I am meditating on the deep satisfaction experienced by the builders of my ancestral home according to their own specifications, shaping local materials with carpenter's and mason's tools and water powered equipment, producing a structure strong enough to stand for hundreds of years. Certainly something is lost from life when prefabricated houses are thrown together hastily by the hundreds, peppering our acres with undistinguished coverts that increase by geometrical progression leading to ultimate doom.

Once again I find myself among crowds, and millions of cars, and blacktop, and the roar of airplanes, and outdoor air that often stinks, and rotten beaches, and birds that die from pesticides, and no butterflies, and no more bluebirds,

As It Was . . . (Continued from page 21)

and a few feathered fliers but none of those I most desire.

Never a year goes by but I hear of some dastardly deed done to nature by stupid man such as another swamp filled by this coast. Another fragile tanker has been wrecked spilling unholy goo over a lovely beach. Shorelines that should be an asset are ruined by the "red tide," an infestation of microrganisms growing in city sewage spreading in the water so bathing must cease to avoid injury to skin and eyes. Is everyone furious, or only those who had to go home dry? What is man that he should presume to convert in a few decades the marvelous Great Lakes into repulsive cesspools? Who gave greedy investors permission to ring the San Francisco Bay with dumps of refuse and garbage and pour excreta into the formerly pure waters of that ships' haven from hundreds of sewer pipes as they enlarge their profitable holdings? No one cares for long that a berserk oil well coated Santa Barbara Channel with the most destructive substance imaginable—no one but the immediate sufferers! It could be hoped that others than the Indians in their reservation in Nevada are grieved that their Pyramid Lake, John Fremont's "gem in the mountains," is being drained of its water for irrigating ranchers' farms. One woman there whose living is thus being lost says, "We can squawk and squawk but it will do no good! We are just ants here!" Maybe so! It seems that most people can sleep on when clever human beings are destroying more and more of what has come into being naturally and is going out of existence unnaturally. So I will say of one more crime: Goodbye sturgeons in Snake River! To the army engineers your life is worth less than a dam!

The nations glory in building immense spewing jet planes as if fume producing automobiles were not enough already to smother all animal life on earth. Is there some hope in atomic plants producing electricity without the exhalation now caused by internal combustion motors? Yes, provided that these plants do not heat waters to the destruction of marine life by the shores.

Many people and organizations, it is true, are doing their best to stem the tide of ruin to nature and we give thanks for them, but the battle will be hard and it cannot be long else it will be too late! That is another story.

WHO NEEDS MONEY, ANYWAY?

By GEORGE M. DODSON
Harrisburg, Pennsylvania

IF the cost of hunting is the least of your worries, the suggestions given here won't especially interest you. However, if a few extra dollars would allow you to expand activities afield, you may want to read on.

Accumulation of hunting equipment that is no longer used, probably because it has been replaced by something you have found better suited to your personal requirements, can represent money tied up for no good purpose. A frequent inventory will indicate what you can dispose of, through classified advertisements in the newspapers, or by spreading the word around among your friends and acquaintances. In addition to picking up expense money toward that next hunting trip, you will be helping someone who might have to put off certain outdoor ventures because he could not afford brand new equipment.

Physical preparation for hunting season or for a particularly arduous undertaking can be turned into a money-saving project as well. You already know what habits, while socially acceptable, still contribute nothing to your endurance once you leave the city limits behind. Cutting down on heavy noonday lunches and numerous snacks, or walking instead of riding to work or on errands, are two ways to trim pennies and dollars from everyday expenses. If your doctor has already pointed out other things you should be doing for the sake of your health, the desire to save for your next hunting campaign may be the added incentive to start now on a health-building fund-raising program. Abating your financial problems will make the hunting more enjoyable.

Sometimes a rather simple shift in normal expenditures can be helpful in avoiding unusual spending on a hunting trip. This, of course, permits closer control on the budget, and aids in staying clear of money emergencies which might otherwise mar your pleasure. For example, a thorough checkup of your family car or other means of transportation will ease the dollar strain by removing repairs and maintenance jobs out of the rush (and maybe costly) classification. Then, too, dealing with the local automotive service shop that has been handling your needs along this line, can be a lot less expensive than emergency work you must have done away from home.

Advance planning may turn out to be a good part of the fun of hunting. But for the purpose of this article, let's put it on a cash basis. Every detail—from the shortest route, to assured accommodations—presents its own opportunities for spending less without reducing the satisfaction. If you learn to think of the matter as the price per hour of actual hunting time, then planning in advance lowers the relative outlay for your chief reason for going hunting in the first place. If this is not clear, take our word for it—or discuss it with your accountant who may be a hunter, too!

Turning your hunting project into a family consultation will likely produce more ideas than you will be able to use, even if your "expedition" covers only the outdoors of your own county. (Firmly ignore your wife's suggestion that you could reduce the total cost to zero by staying home.) If, on the other hand, the family becomes interested in some phase of wildlife, you may expect cooperation like you would never have believed. To chop up and reassemble an old saying, "The family that hunts together will try to save together in order to make it possible."

The bargain hunter (hey, we made a pun!) who starts early to study advertising material and visits frequently at the sports stores, will likely get most for his money. But only if he constantly balances fair price and quality sufficient for his demands. It can, though, take a lot of joy out of living if a fellow hunter tells you, "It would have paid you to have looked around a while longer. That ten dollars you wasted could come in handy toward your next purchase of equipment."

Well, you cannot win them all. Yet, with a bit more foresight and better planning, you may win an improved proportion on your next hunting trip.

The Pleasures of Trout Fishing

By R. B. BELTON
Manassas

LAKE-SIDE scuttlebutt had it that 10,000 trout had been stocked there prior to Opening Day and that another batch had been added on Friday. Appetites were whet to a keen edge, both for catching the wary trout and for enjoying their sweet flavor by the campfire. The weather seemingly was good, with no rain in the forecast. Still, though, there was a tenacious chill in the breeze on this mid-April weekend, a reminder from hoary old Winter that, officially or not, she was still to be reckoned with, especially in mountainous Bath and Alleghany Counties, wherein lies Douthat State Park.

My wife and I had arived in mid-afternoon, happily towing our newly purchased trailer, a zippy thirteen-footer. After selecting and occupying a campsite (not without some furtive glances and a few suppressed cries of panic on my wife's part at my "expert" maneuvering of car and trailer), we decided to look around a bit to get the "feel" of the area. We wandered north a few hundred yards along the road that serves the park to a small turn-around area for motorists. Here the stream that was damned up in the thirties to form the lake flows swiftly southward. It was beside a quiet side-channel of this gaily splashing creek that we experienced one of those magnificent bonuses that Nature provides those who love the woods and fields and streams. Modestly nodding in the afternoon sun was a large concentration of Eastern Trout-lilies, their yellow, bell-shaped blooms tipping down away from the sun. What more fitting sign could there be that these were trout waters we had come to fish? Against the carpets of pine needles here and oak leaves there, the scattered blooms, hanging from their slender stems and surrounded by greenish-yellow, mottled leaves, were a delightful harbinger of spring's eventual certain victory over stubborn winter. There were Hepaticas, too, with bluish-white and lavender blooms that were mutually enhanced by their association with the yellow Trout-lilies. Not in "gay profusion" were the blooms spread but delicately, as if too few would have been better than too many. Such is the way of the Trout-lily, especially.

From the solace of this place of quiet exquisiteness we journeyed to the boat house on the nearby lake to purchase the dollar-a-day permits required to fish in this pay-as-you-go impoundment, which is stocked regularly by the Virginia Commission of Game and Inland Fisheries. On the way we passed an elderly couple, each carrying a stringer of five nice trout, the daily limit. Upon our offering of congratulations at their success they warned that these beauties had been hard to come by, requiring constant coaxing since 11 a.m. It was then past 4 p.m. Undaunted (you know the feeeling, I'm sure), we proceeded to purchase the required permits. A few minutes later we were happily settled beside two other fishermen, our baited hooks settled on or near the bottom, depending on the type of bait used. Douthat trout are especially fond of corn kernels and miniature marshmallows, as well as worms, but have been known to take a variety of offerings, including some artificials.

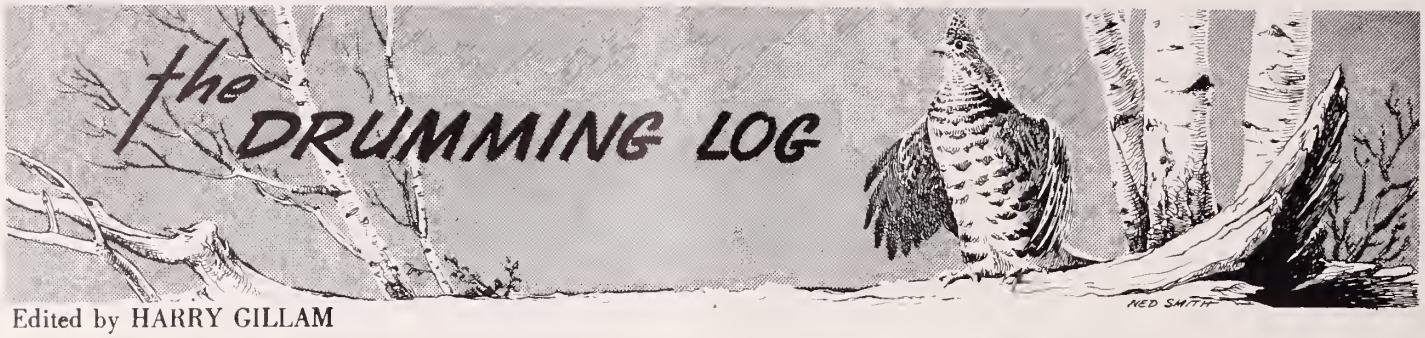
Well, there's no sense stalling around any longer. Our two companions, both of whom lived nearby, left disgustedly, promising to return the next morning. They didn't have any fish and when we left at 6 p.m. we didn't either.

Not being entirely unfamiliar with Douthat's trout and their ability to thwart even the most determined of anglers, we had included other fare in our supplies. It wasn't as enjoyable as a tasty rainbow but it was still passing fair.

We spent the night in our trailer-home huddled under three blankets, wishing for just one more. It seems old winter was flat out insulted by the summer-like temperatures of a few days before and had put all her energies into pushing the temperature as low as possible. She succeeded in getting it clear below freezing.

We were up bright and early the next morning, eager to reverse the trends of the evening before, and we headed for the same spot, since it had yielded three nice trophies (and a delicious meal) on a previous trip. Other anglers had the same spot in mind, though, and had beat us to the punch, so we headed about 100 yards along the shoreline toward the dam to a point where a large hemlock stood like a towering sentinel. The bank is steep along the east side of the lake and the water depth increases rapidly a few feet out. Such a promising spot would surely yield the daily limit in no time at all.

The morning passed swiftly and enjoyably as we conversed with neighbors on both sides. Invariably, though, the conversation kept returning to one horribly obvious fact —no one was getting even a nibble. Maybe it was the wind, suggested the gentleman on our left. It was blowing from the southwest, crisply at times. Once, though, it died down to almost nothing. Simultaneously, there came that unmistakable tug—on my line! There it was again! I set the hook and had him, a respectable rainbow, not little but not big, either. At any rate the ice had been broken and I had that one trout I'd promised the people who camped next to us I'd get. Now the action was really going to get hot. Not so. Maybe because of the breeze (it began to blow again almost immediately) or due to some mysterious, unknown factors, only one more bite was felt among us. By noon we had to leave with only that one trout to show for the efforts of six fishermen. But in reality a lot more had been gained than just one fish. Companionship, easy and friendly, had been experienced, and a lot of other things, too. Like relaxation and renewal of the spirit and just plain enjoyment. And we would come again soon, in search of these things even more than the fascinating, elusive trout.



Edited by HARRY GILLAM

Little River Musky

This 6 pound 10 ounce muskellunge was taken from Little River just below the dam not far from the Claytor dam on New River where the exotic pike were released. This is apparently the first of citation size from that area, although some have been taken from Claytor. Tom Viars of Radford was the lucky angler.

Two Films Added To Game Commission Library

The Commission of Game and Inland Fisheries has added two new titles to its library of some 75 films available for group showing around Virginia. The new films are "The Farm," produced by the Remington Arms Company, and "The White-tailed Deer," produced by the Minnesota Foundation.

"The Farm" was filmed at Remington Farms, Chestertown, Maryland. It stresses how wildlife management can be woven into a production agriculture situation so that it actually complements rather than hinders the overall farming operation. Emphasis is on the simple things that require a minimum of effort yet provide the basic needs of wildlife. The pleasures of hunting and the financial returns it can bring are also covered.

"The White-tailed Deer" is a beautiful portrayal of the life history of Virginia's most important big game animal. Deer management techniques are traced down through the years showing how each little bit of knowledge has helped in understanding and coping with deer problems. The film emphasizes how much we know about the whitetail and how accurately he can be managed. Excellent photography and narration make this an entertaining yet highly educational film.

Both films are available on a loan basis from the Game Commission Film Library.

New State Sportsmen's Group Formed

Slightly less than a year old, the Virginia Gun Owners and Sportsmen Alliance is making great strides in signing up membership across the state. The avowed purpose of the group is to support the interests of gun owners, hunters, fishermen and other sportsmen in the local state and national political area. By means of a bulletin to members, the group plans to keep members informed on important issues. Much of the group's recent activity has centered around federal gun laws and the threat of more at the federal, state and local level. The organization's motto is "The right to keep and bear arms shall not be infringed." The group is anxious to sign up new members to broaden its base of representation so it can more forcefully present the views of Virginia sportsmen. Until August 1st, qualified persons may join for a $1 donation. For an official application and further details, write to Virginia Gun Owners and Sportsmen Alliance, P. O. Box 995, Staunton, Virginia 24401.

Bowhunter Jamboree Again Set

The Wythe Bowhunters will again sponsor a Bowhunters Jamboree September 13 & 14 at their range 8.5 miles north of Wytheville. The Virginia Bowhunters Association sanctioned event will include three dimensional animal targets and ingenious moving game targets to test the skill of the experienced as well as the novice archer. Some $500 in prizes will be awarded to top shots and entrants lucky enough to win one of the many door prizes. In addition to all the realistic animal target shooting an archer could want, there will be a game calling contest and a trail bike race for unusual action. One of the more popular features is the large display of archery equipment and hunting information. The event is open to anyone and camping facilities are available nearby for those who want to make it an outdoor fun weekend.

New Virginia Trails Association Formed

Thirty-five trail enthusiasts met at the Peaks of Otter recently and organized the new Virginia Trails Association. William R. White of Richmond was elected temporary chairman.

A committee was appointed to draft bylaws which will be presented to the Association at a second meeting in early fall.

The Association will support the development of a Virginia trails system, encourage the use of trails and the formation of local trail clubs, and represent trails interests on the Conservation Council of Virginia.

The Association plans to seek support from trail clubs, service groups, scouting organizations, governmental agencies, and individuals interested in hiking, bicycling, and equestrian trail development.

Better statewide contact and communication between trail users is an immediate goal of the new Association.

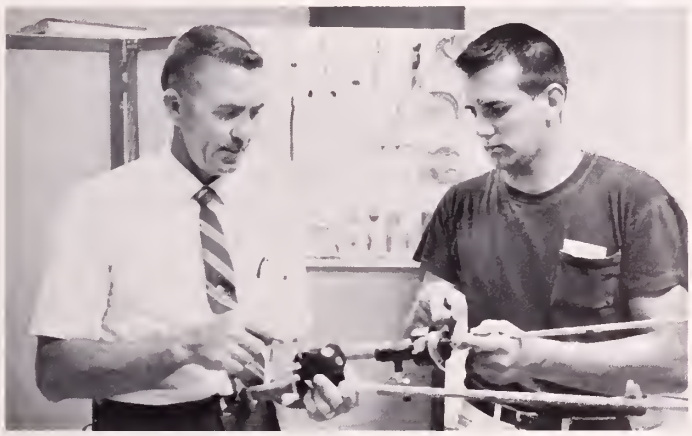
Further information can be obtained from the acting secretary, Bill Bolger, 1827 Junaluska Ct., Richmond 23225.

Big Spring Bird

George G. Fulcher of Arlington bagged this nice 19¼ pound gobbler shortly after 8 a.m. one morning during the spring gobbler season while hunting in Culpeper county.

Edited by ANN PILCHER

Fishin' Fun at College



Left: John Tyler Community College instructor Gene Evans and James Arthur, '68-'69 sophomore from New Kent, compare the merits of open and closed face reels in front of display board holding plugs and other lures that have really caught fish. Right: Hunting safety tips are also included in JTCC's P. E. course. Here Mr. Evans points out parts of a gun and discusses loading with his student.

When Game Commission personnel use the term "fish for fun," they're usually referring to the practice of returning to the water all fish caught in certain designated sections of the Rapidan and Staunton Rivers. There anglers have the fun of catching but not the privilege of keeping brook and rainbow trout, some of which grow two feet long.

Mr. Gene Evans, Physical Education instructor at John Tyler Community College in Chester, Virginia, wasn't particularly thinking of returning fish to water when he said, "My Angling and Casting class should probably be called 'Fishing for Fun'." But he was certainly speaking of the "sport," the re-creative value and the enjoyment that fishing brings. His enthusiasm is evident as he converses with his young listeners about methods of fishing, types of equipment, kinds of bait, where and when to try their luck, fish identification, knot tying, conservation practices and principles, pond management, stocking procedures, boating tips, chart reading, etc. Practical application is included in the curriculum, and students have the opportunity to develop sufficient casting skill to attain the rank of Casting Instructor, certified by the American Casting Association. Students: JTCC's P. E. 17701 is a course not just for credit but one truly taught "for fun." And, in the opinion of instructor Evans, it's an opportunity to develop an avocation that might well help maintain peace of mind, understanding, and emotional stability when life becomes hectic.

Keeping Up With Diana

Twice last year Diana Timberlake was featured on our "Youth" page, first after being named to the 1968 Virginia All State Rifle Scholastic Team, then as a member of the 1968 National Junior Smallbore Rifle Championship Team and, in her own right, as National *Civilian* Smallbore International Position Rifle Champion. This spring Diana, a freshman at East Tennessee State University, was selected for the 1969 Collegiate All American Smallbore Rifle Team. Virginians are proud of this Alexandria lady, who evidently is keeping her eye "on target."

Diana Timberlake, champion shooter.

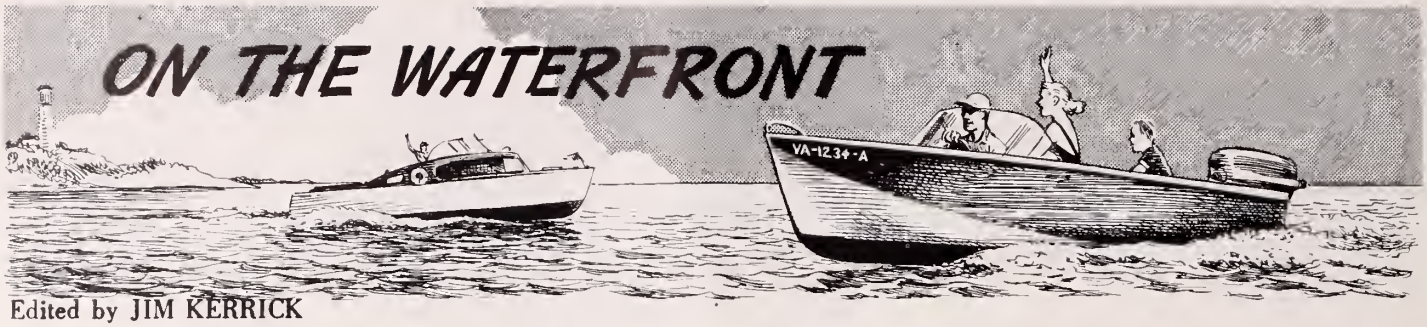
May—Scout Camporee Season

Shawnee District Boy Scouts in the Winchester area held a three-day "Camp-o-ree" at the Fraternal Order of Police property on Route 7 in late May. Theme of the get-together was conservation, and tree planting was a part of the weekend activities. Adults who assisted with the outing were Charles Hofer, Izaak Walton League national director; Chet Litten, subdistrict forester; Dave Ramsey, game warden; and Paul Moore of the Soil Conservation Service.

Saltville Boy Scout Troop 165, sponsored by the Saltville Rich Valley Lions Club, received a blue ribbon award during their camp out at the Olin Corporation sponsored Fisheree in May. Six hundred fifty-five scouts attended, and Troop 165 was one of five troops honored.

Frozen Trophy

David Daniels of Powhatan Court House seems to approve of his father's 14" bream taken this spring from an Amelia County pond. Rare in that it weighed two pounds, this sunny was attracted by a worm and landed with a spinning rod.



Edited by JIM KERRICK

Trailering Adds Mobility to Boating Enjoyment

Photos courtesy Evinrude Motors

All signal, brake, and running lights should be in working order.

With the development of the modern boat trailer, the man who had previously been limited to the waters nearest where he kept his boat was able, for the first time, to pick up his boat and go wherever he wished.

This heightened mobility has opened a new door for the boating family. Now boating, camping, travel and adventure can be combined in one trip.

The boatman also knows that the trailer simplifies caring for a boat between outings. Keeping the boat on a trailer at home is more convenient, more economical, and less worrisome to the mind. Storage, shed rental, and mooring or docking fees become a thing of the past. You will find that you tend to do necessary work on the boat yourself, when it is on a trailer in the backyard, rather than pay to have it done by someone at your anchorage.

SAFETY ADVISED

Boat trailers can accommodate boats up to 30-40 feet, whether motor, sail, or houseboat, covering a wide selection of types and sizes of small craft. There are certain safety precautions that are common to all trailers no matter what size.

The wise boatman pays close attention to these areas of trailer maintenance and operation at all times. As a result, trailering can be easy, trouble-free, safe and enjoyable.

Experts stress the need for a trailer that fits the boat it is to carry. The trailer should be long enough to support the hull, with the boat riding in proper balance; its bed should be shaped and padded to hold and brace a boat so that its hull will not sag or be subject to unnatural stress.

TRAILER HITCH

A strong trailer hitch is a must, with the safest kind being that which attaches to the frame of your car. It is also sound practice, and a law in many states, to attach a safety chain from the trailer to the frame of the car.

When you mount your boat on the trailer, the center of gravity, with the motor attached and loaded with normal gear, should be slightly forward of center so that some of the weight rests on the hitch. This will prevent bobbing of trailer and boat while on the road.

A tail light will be necessary when driving at night, and some states require stop and turn signals. Many boatmen have a plug-in socket wired to the car's lighting system to operate the trailer lights.

CHECK RIG

When traveling for any extended length of time, stop your rig occasionally and check the tie-down straps and the hitch. Sometimes the tie-downs will rub against sharp surfaces and possibly wear down enough to snap.

Driving a trailer rig is easy, but it is different from driving a car; it takes a certain amount of practice. Take it easy until you become accustomed to the added weight. And remember that you are now driving what amounts to a very long car, so be absolutely certain that you know the distances and time required to pass, to turn a corner, and to stop.

Lubricate all moving parts; makes launching and loading easier.

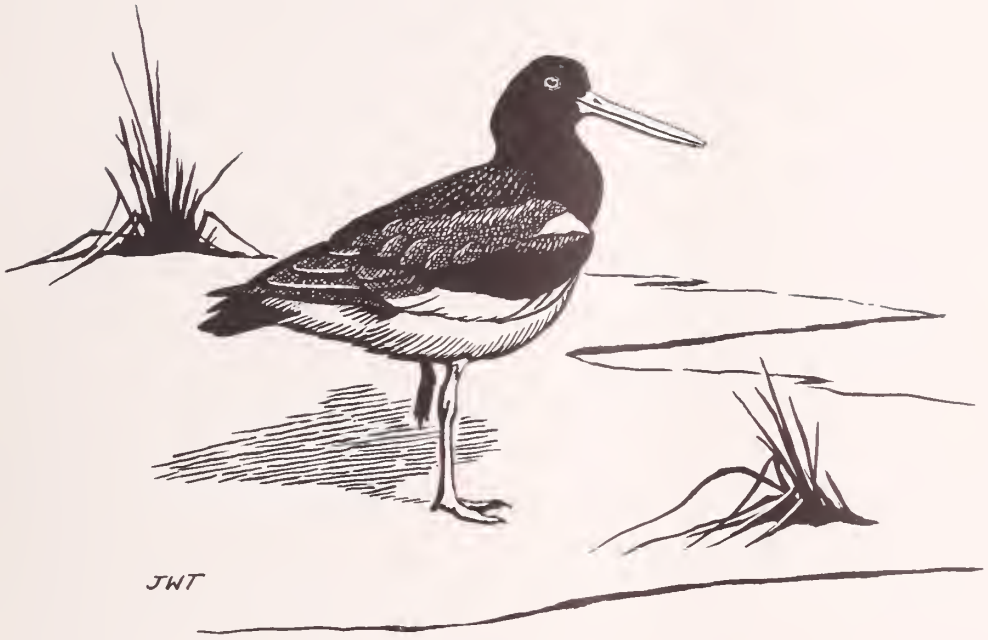
Backing a trailer is a bugaboo that terrifies some people. It takes a certain amount of practice, but it is really quite easy. The main thing to remember is that a trailer always backs in the opposite direction of the car. Therefore, if you want to back the trailer to the right, you have to cut the car's wheels to the left.

BACKING TRAILER

An easy way to do it correctly, is to grasp the steering wheel at the bottom and move your hand, left or right, in the direction in which you want to move the trailer. It will go in the same direction that your hand does.

After a half hour or so of practice, you will get the feel of backing the trailer where you want it to go. You will learn the optimum turning radius for your particular rig, and how to handle it in all situations. After becoming an expert, you can join the others at the lake, mumbling at the unfortunate who is tying up the ramp because he never learned how to handle his rig in reverse.

Correct tire pressure makes for safer and easier trailering.



Bird of the Month:

American Oystercatcher

By DR. J. J. MURRAY
Lexington

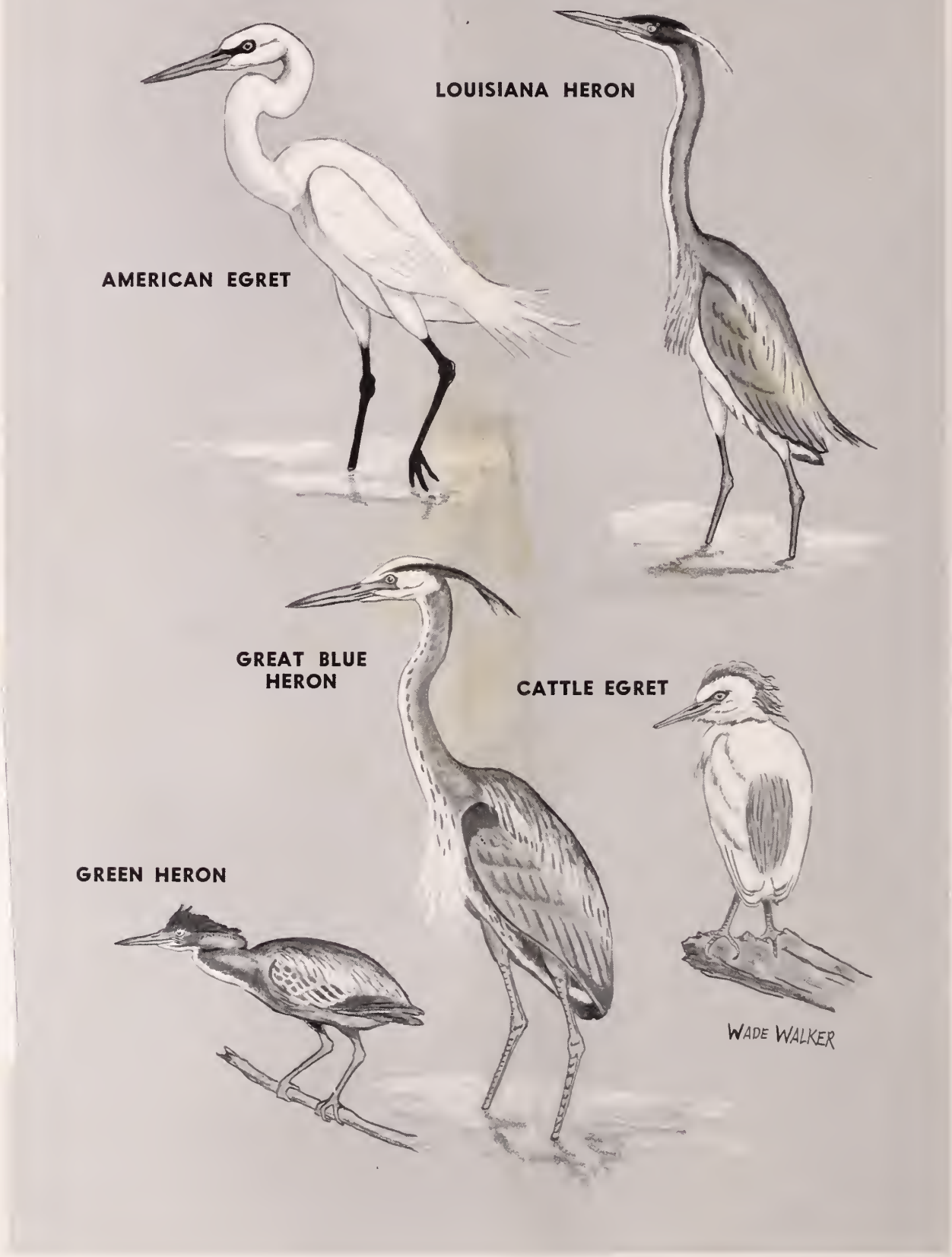
THE American oystercatcher carries the fearsome scientific name of *Haematopus palliatus palliatus*. It is large enough to carry such a name, and handsome enough not to be hurt by it. Its most noticeable feature is the great bill, twice as long as the head. It is heavy, flattened like a knife blade, and bright red in color. This bill, powerful enough to pry open a clam or an oyster, is from three to four inches long.

Running from 17 to 21 inches in length, the oystercatcher is about as large as a crow. The female is somewhat larger than the male. With a black head, heavy red bill, and reddish iris, the color pattern is striking. The back and most of the wing is grayish-brown. From the black neck down, the bird is white below. There is white in the wings. The legs and feet are dull pinkish. When the bird takes flight, the pattern of black and white and red is a startling one.

According to the latest edition of the check-list of North American birds of the American Ornithologists' Union, this bird nests from New Jersey south to Georgia, and on the Gulf from Florida to the Texas coast. It is, of course, strictly a coastal bird. In a very exceptional case one was shot on January 3, 1924, near Lawrenceville, in Brunswick County, Virginia.

According to Dr. William Cabell Rives' book, *A Catalogue of the Birds of the Virginias*, published in 1890, this bird was a rather common summer resident on the Eastern Shore in the nineteenth century. By 1913, however, Harold H. Bailey, in *The Birds of Virginia*, stated that it was a scarce nester in that area. It is now more common there again, occasionally wintering in some numbers. Counts on December 29, 1965, of 105 at Chincoteague and 196 in the Cape Charles area were given me by F. R. Scott. We have a Peninsula record, also by Scott, of two on November 5, 1952.

Altogether this is fine bird. It deserves the fullest protection. Arthur Cleveland Bent says that it "is one of the shyest and wildest of our shore birds, ever on the alert to escape from danger." It is a good swimmer, as well as a wary flier.

The nest is a shallow depression in the open in the sand, on the beach or in the sand dunes. Two or three eggs, sometimes four, are laid in late April. There seems to be little exact information about the incubation period. Bent says that it is probably like that of its European relative, from 21 to 24 days. The young can run as soon as they leave the egg, and have a wonderful ability to hide.

AN ASSORTMENT OF HERONS